PAPERS OF THE
ROBERT S. PEABODY FOUNDATION
FOR ARCHAEOLOGY

VOLUME NINE

THE NEVIN SHELLHEAP:
BURIALS
AND
OBSERVATIONS

BY
DOUGLAS S. BYERS

PHILLIPS ACADEMY - ANDOVER, MASSACHUSETTS
PUBLISHED BY THE FOUNDATION

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To Douglas Swain Byers

A Dedication

...I have always considered Doug one of the most civilized people of my acquaintance. He was admired and respected by his professional colleagues and beloved by his friends and contemporaries. In his modest, unassuming way, he contributed a great deal to Andover, the school, and the community. I still regard the miracle he wrought within the Museum of Archaeology, as one of the most imaginative and effective transformations of a comparatively moribund institution into a vital cultural force. It established a precedent for others to follow, and, in a real sense, remains as a living memorial to him.

Charlie Sawyer
Director Emeritus
University of Michigan
Museum of Art
Ann Arbor, Michigan

PREFACE

In this brief preface for a volume in memory of Douglas Swain Byers it seems fitting and proper to start with some biographic words about our late, beloved author.

Doug was born January 15, 1903 in Newton Center, Massachusetts and grew up to become a "New England gentleman" in the finest sense of the word. He received an A.B. and an A.M. degree from Harvard University in 1925 and 1928 respectively. He was an assistant dean at Harvard College from 1929 to 1931, after a brief start in the banking world. During that period he decided to make archaeology his life's work, and thanks to the efforts of "Doc" Kidder, the father of scientific, American archaeology, he came to the R. S. Peabody Foundation in Andover in 1933. In his own words, the "place was a shambles" and its once fine reputation was tarnishing. He conscientiously set out to rectify both these problems. Not only did he ably administer this institution, always under trying conditions and always without support from the powers above, but more important, he helped make it a world-famous archaeological center and an archaeological research foundation without equal.

Right from the beginning, Doug decided that one of the duties of the Foundation was to be a service organization for the field of American archaeology. Our field owes him a debt that can never be repaid for the many unsung services he gave to the discipline, such as a series of conferences for the American Anthropological Association, the Society for American Archaeology, the Tehuacan Expedition, the Archaic Conference, the Debert Conference, the Massachusetts Archaeological Society meetings, and others. In addition, he sponsored other scientists' researches, such as the Tehuacan Project, the Maritime Provinces expeditions, the Quebec surveys, the Debert and Yukon expeditions, and many more. He was also involved in the founding of such organizations as the Society for American Archaeology with its _American Antiquity_ and the Massachusetts Archaeological Society and its _Bulletin_, and he served on endless anthropological and archaeological committees. As the editor of _American Antiquity_, he transformed it from an amateur effort into a professional journal. He was advisor to hundreds interested in archaeology, as well as a trainer of young students. He did all this, and much more, but except for being a Fellow of the American Academy of Arts and Sciences, he was given little formal recognition and the local community had no appreciation of his tremendous accomplishments. In addition to this, he not only assisted many, many others, including myself, in the field and in analysis on a multitude of problems, but he was generous to a fault with his time and was always of help with personal as well as professional problems.

Not only was Doug a friendly person giving much of himself to others, but he was also a topnotch scientist in his own right. Early in his career he had dug under the auspices of the Peabody Museum of Harvard in the Southwest with "Alfie" Kidder. He conducted social anthropological research with Oliver LaFarge in Guatemala in 1930, and at the Navaho reservation in 1926-1927, and dug with me in Tehuacan, Mexico from 1961 through 1964. Further, he helped start the initial archaeological survey of Massachusetts, as well as that for New England. Later, he initiated the research on the famous Debert Site in Nova Scotia, still our oldest (11,000-12,000 years B.P.) site in eastern North America. Further, he carefully dug a whole series of stratified sites in Maine, New Hampshire, and Massachusetts, and made major contributions to knowledge concerning the eastern Archaic, 3,000-7,000 year-old Indian cultures.

Among these excavated sites, perhaps the one he is most famous for is the Nevin Shellheap, the topic of this monograph. From many standpoints, its excavation, initiated in 1936, was a new and important phase in the research program of this Foundation. The depression and other manipulations had placed the Foundation in dire financial straits. The problem was how to do high quality research in keeping with the traditions of the Foundation, with little or no money. His answer was to do summer research in the northeastern United States with student or volunteer help, under his and Fred Johnson's able direction. Thus began the endeavors at the Nevin Shellheap from 1936 through 1940. This monograph will attest to the skill of these excavations and the many students who helped (and who now have also contributed money for the publication of this monograph) will be able to further relate what an enjoyable, scientific and educational experience it was.

This brings us to the monograph itself, and it had its trials and tribulations! Something always seemed to conspire to keep Doug from completing the analysis of the materials or doing the writing, not the least of which were the many services he was performing for the archaeological profession. Obviously, one of the first interferences was World War II and the various patriotic duties Doug volunteered for, but there was also an ongoing research program he had to direct. Fred Johnson excavated the Boylston Street Fishweir in Boston in 1939; Grassy Island, Massachusetts in 1942; and Titicut in 1947, as well as survey along the Alcan Highway in the Yukon in 1944 and 1948. Rip Bullen dug in the Andover environs from 1940 to 1946; Doug and Ted Stoddard went digging at Ellsworth Falls, northern Maine and eastern Canada in 1946, 1947, and 1948, while the Foundation sponsored the Rogers work in northern Quebec at the end of forties. In the fifties, other research was done, particularly Doug's work at Bull Brook, Massachusetts, the first early man site in the northeast. There were also the new exhibit program, more service for the profession, as well as legal and policy conflicts with the Headmaster and the Board of Trustees. All these took time and suddenly it was the sixties, with first the Tehuacan expedition in Mexico to administrate, the Debert project in Nova Scotia to run, and the famous Prehistory of the Tehuacan Valley volumes to edit and publish. Before the sixties, Doug occasionally had looked at the Nevin Shellheap materials and even laid out some specimens for analysis, but by the sixties he had given up and planned to finish it after his retirement in the seventies.

Eventually, after thirty years of frustration, we gave him space in the museum and, under my encouragement, he began to do the "Nevin Report." We talked about it endlessly and finally he wrote what was to be the introductory chapter, most of which has become the introduction in this volume. The next chapter was to be the excavations and stratigraphy. All the drawings were finished for it and are here included, but only a portion of the written text, also included in this monograph, ever came into my hands. There were to be additional chapters on chipped stone tools, bone tools, ground stone tools, pottery, burials, etc., as well as a long set of conclusions. By the mid-seventies, only the burial chapter was done, but it looked like the rest was on its way.

Then an unfortunate set of circumstances intervened. Some of the younger archaeologists working in the coastal area of the Northeast decided to get out a volume on the archaeology of that region. Obviously, an article or chapter by Doug had to be included, and we discussed the matter. It was finally decided that he would publish some part of his intended volume, but we would retain the copyright and later would publish the whole work, even though a part of it, the background, the excavations, the burials, and some conclusions would go into the proposed article for the coastal archaeology volume. Doug worked hard, and finally it was complete. It was sent out, but shortly it came back from the editor who, I hope, has the decency to blush when he reads this, requesting Doug to change his conclusions because they didn't fit with those preconceived by the editor. Doug was furious, as well he should have been, and promptly withdrew the article. From many standpoints, though he never showed it, gentleman that he was, he was broken-hearted and no matter how hard I tried I never could really get him enthusiastic about working on the Nevin Report again. Eventually, when he cleared out of the Museum, he brought me the manuscript that later became this monograph, which seems to me to be about the article he had submitted, perhaps minus the conclusions to which the editor had objected. I said I would try to get it published and wrote some letters to that effect, for the Foundation was in its usual dire financial situation and we had no funds to publish monographs in our series. This was the situation when Doug passed away in his sleep in Blue Hill, Maine across the bay from the Nevin Shellheap on October 27, 1978.

Then about February of 1979, a peculiar set of circumstances occurred. Henry Hornblower, a devotee of archaeology and one of those students who had worked for Doug at the Nevin Site in the thirties, called me up and asked about someone analyzing the Nevin materials. To his surprise I told him Doug had left a publishable manuscript, and his delightful response was that it should be published as a memorial to Doug. What is more, he suggested we should have a fund-raising campaign to get the money for said publication and that he "would start the pot boiling" by giving a substantial contribution. We then decided that Mardi Byers, Doug's younger daughter, who was in Andover, should be in charge of the campaign. She and her mother, "Didi," then wrote to a host of old friends of Doug's, including many who had been students on those digs at Nevin. The response was tremendous and I would like to thank the close to sixty generous contributors who prefer to remain anonymous.

I also would like to thank our administrative assistant, Theo George, who not only handled all the financial matters, but also proofread, organized, and typed the manuscript. It all would not have been possible without her. I also would like to thank Lindy Gifford, Gene Winter, and Mike Gramly who proofread the manuscript and Bob Forget who did additional art work on the illustrations. Also, last but not least, I would like to thank Bill Glick and his very competent staff at the Meriden Gravure Company, for doing their usual fine printing job.

In conclusion, I hope that this monograph stands as a fitting memorial to Doug Byers whom we all loved and respected. But more than that, I hope it will stimulate other students to finish the analysis of this well-excavated and documented Nevin Shellheap, the remains of which are stored in our Foundation. I also hope it will lead to further archaeological investigations on related matters and the making of more contributions to knowledge in this realm.

Isn't this what you would have wanted, Doug?

Richard S. MacNeish
Director
May 23, 1979

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INTRODUCTION

The Nevin Shellheap is situated in the town of Blue Hill, Hancock County, Maine, on Mill Island 44° 22' 27" N, 68° 33' 35" W (Fig. 1) approximately 3.65 km. south of the present entrance to Blue Hill Harbor. The heap had once been larger for its seaward edge had been undercut. Large plummets, hammerstones, and other artifacts were scattered over a wide expanse of gravel and shingle beach; many items were partly embedded in the substratum.

The present forest cover of this part of Hancock County is a mixed stand comprising species found in the Great Lakes, St. Lawrence and Acadian forests. The original forest was cut off by settlers who cleared the land for its lumber and for farming and pastureland. Pictures dating from the late nineteenth century show a rolling open country, with small groves and trees along walls and fences (Clough 1953). The present forest cover has sprung up since the decline of farming, grazing, and quarrying. It supports a wide range of animals, among them deer, black bear, racoon, red fox, bobcat, beaver, varying hares, porcupine, fisher, weasel, mink, and an occasional moose. Cougar tracks and cougars have been reported by a few experienced woodsmen.

The marine fauna now includes harbor seal, porpoise, an occasional small whale, and the anadromous alewife, smelt, and trout. Shellfish include periwinkle, mussel, scallop, surf clam (Spissula), soft clam (Mya), and quahog (Venus), the last-named only in relict colonies. Oyster culture has been tried successfully, as far as reproduction is concerned, but the planted oysters did not survive human predators until the present very successful Maine Oyster Corporation was established by Mark Richmond. Groundfish, including cod, haddock, and halibut, once plentiful, are now rarely taken, although they are said to have been easily taken fifty years ago. Flounder disappeared with the eelgrass blight, but are slowly coming back. Dogfish are plentiful as were sculpin, searobin, and other bottom dwellers. Lobster and crab could be taken from ledges along shore by a man with courage and quick hands, but they are not now so common. Schools of mackerel appear in July and August. Striped bass do not now run into Blue Hill Bay although they run into adjoining Union River Bay. Like salmon and shad, they may have run into Blue Hill Bay before the principal streams were dammed. Offshore, humpbacked whales and blackfish cruise the tide rips in search of food; the summer, with warmer water, brings swordfish to the sea beyond the islands. In August, 1973, bluefish were taken locally.

Duck are still to be found, but not in great numbers.

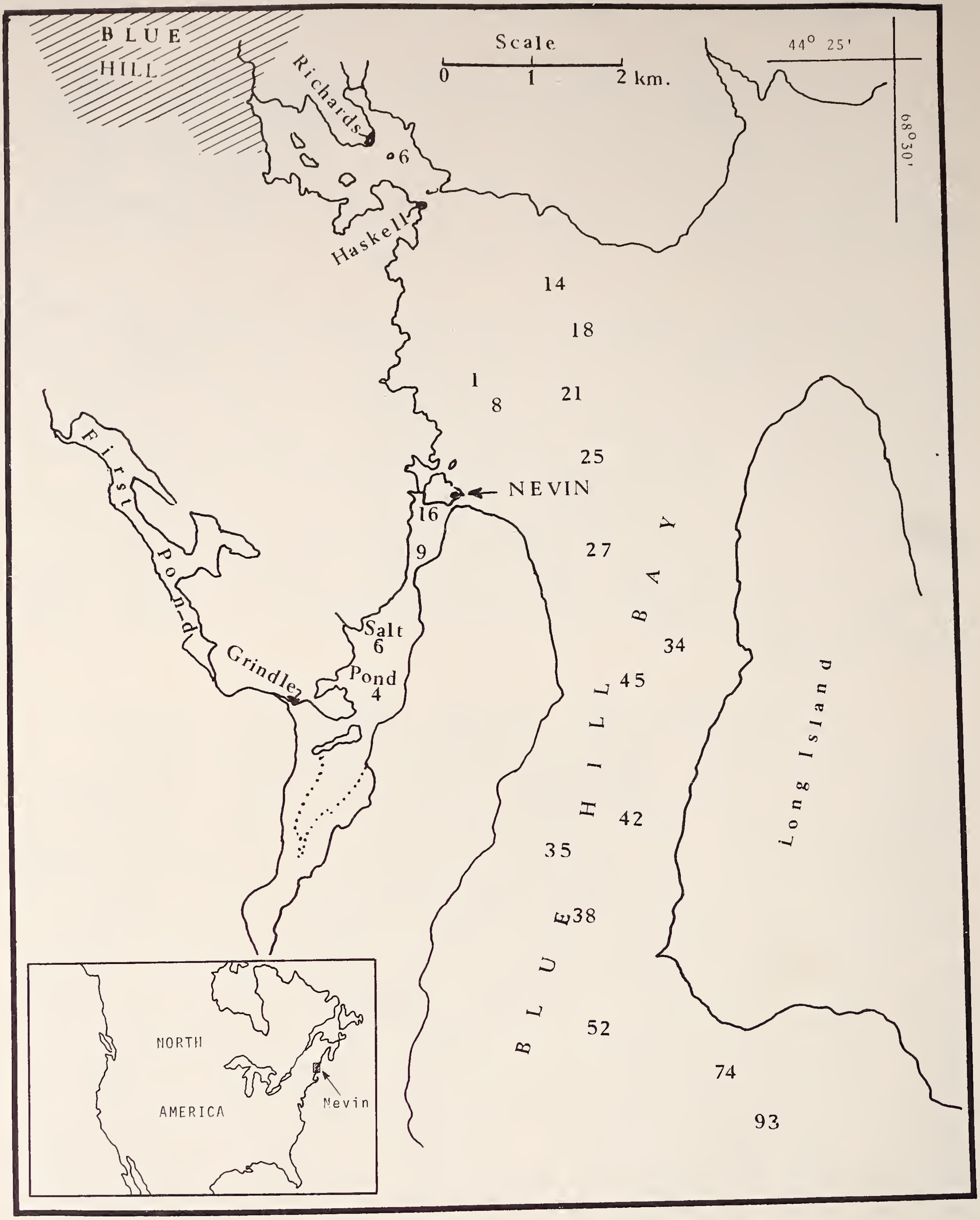


Fig. 1. Part of Blue Hill Bay, showing position of the Nevin Shellheap and other archaeological sites. Soundings are in meters below mean low water. (After C & GS chart 307).

Canada Geese stop on their spring migration and sometimes in the autumn. Loons and other divers nest in suitable spots. The fall and winter bring huge flocks of scoter, whistler, old squaw, and eider duck. As they move in, the lobster and seal move out to deeper, warmer water.

Extremes of temperature now range locally between approximately 100°F and -35°F (personal observation). The bay may freeze solidly enough to allow teaming across the ice, or it may remain almost completely open.

The topography is the product of heavy glaciation that has left evidence of its flow from slightly west of north in striae on ledges, in the shape of Eagle Lake and Echo Lake on Mount Desert Island, and Toddy Pond in Orland and Blue Hill, and in nearly parallel courses of U-shaped valleys gouged in the granite of Mount Desert Island and the over-deepened bottom of Blue Hill Bay where depths of more than 100 meters can be found in the East Passage and more than 90 meters in the West Passage. A substantial drop in sea level would do little to make shellfish less readily available in such subsurface topography.

Locally, the late glacial strandline can be found at elevations conformable with the strandline between 260 and 300 feet above sea level reported by Bloom (1959) and Borns (1966) that can be traced from near St. John, New Brunswick into northeastern Massachusetts. Its late glacial age has been confirmed by radiocarbon analysis of numerous samples. The depth of the mantle of till that survived submergence and subsequent emergence is variable. On Mill Island only pockets of till remain between the ledges and bosses of Ellsworth Schist that make up the core of the island.

Mill Island derives its name from the tidal mill that once operated there. A dam was built at the western end of the island; another one, with a flapper gate, forms a causeway that carries the road to Blue Hill village across ledges to Conary's Point (Fig. 2).

To the south of Mill Island is Salt Pond, filling part of a narrow valley that extends southward to the Benjamin River, in Sedgewick. The greatest width of Salt Pond is over 800 meters; its greatest depth, approximately 15 meters (52 feet), occurs in its northern basin. At low tide, Salt Pond is about 4 kilometers long; at high tide, this becomes approximately 5.5 kilometers. A small brook at its southern end supplies some fresh water, but the chief tributary of Salt Pond is Carleton Stream that drains swamps and a series of ponds above First Pond, and enters Salt Pond just west of Carleton Island. Since the dam at First Pond has gone out, Carleton Stream has once again become the resort of alewives in the spring, going up to First Pond to spawn. Other fish

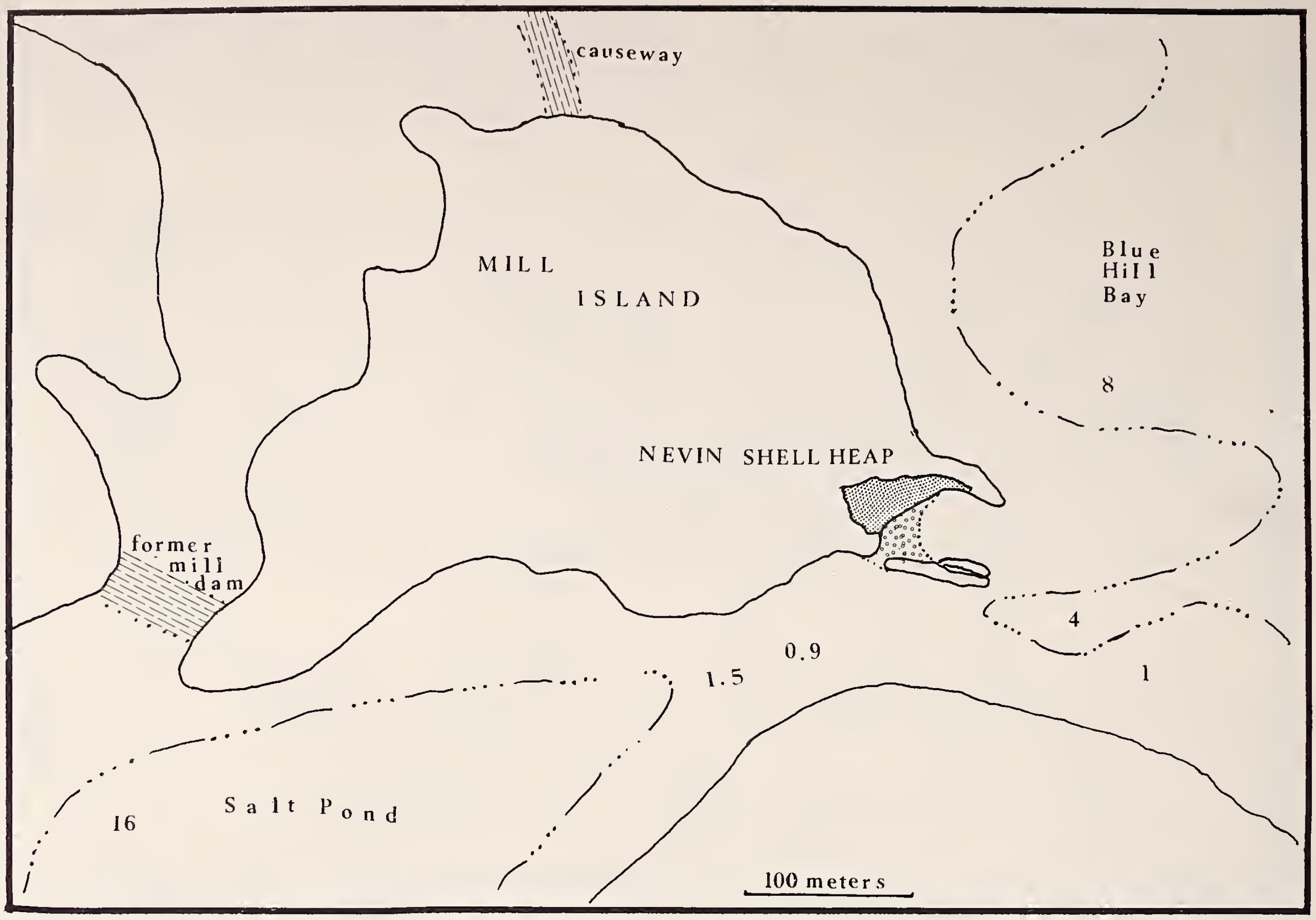


Fig. 2. Mill Island, showing position of Nevin Shellheap with relation to Salt Pond and Blue Hill Bay. The -4 meter isobath is shown. Soundings in meters below mean low water. (After C & GS chart 307).

may formerly have used the stream and ponds above in the same way.

Salt Pond drains into Blue Hill Bay through Blue Hill Falls, a reversing rapids that sends a strong current several hundred meters out into the Bay at low water, and into Salt Pond at high water. High water and low water in Salt Pond and Blue Hill Bay are not synchronous because the Falls cannot pass enough water to drain Salt Pond or fill it in phase with the rise and fall of the tide in the Bay. As a result, after high water has been reached in the Bay and the ebb has begun, water continues to flow into the Pond until the level of the Bay reaches that of the Pond. In the same way, Salt Pond continues to drain after the Bay has reached low water and the flood has commenced, and does so until the levels of the two bodies of water are equal, when the Falls are stilled and the current reverses itself.

It seems likely that at the time when the site of the Nevin Shellheap was first occupied by Indians what is now The Falls was the mouth of a large brook that drained a lake fed by Carleton Stream that wound through a fresh meadow to the Narrows in Salt Pond just south of the northern basin. It also seems likely that these first occupants were interested in fin fish and not shellfish. A number of radiocarbon assays place early levels of the site at 4000 or more years ago. These are listed below, but suffice it to say that they ranged in radiocarbon time from 3895±60, and 4195±60 B.P. on oyster shells (SI-1553 and SI-1551A-2) respectively, through 4055± 90 B.P. on bone (SI-1550B) to 4245±115 B.P. on swordfish sword (SI-1551C). Dr. Robert Stuckenrath was good enough to run these and other samples, and I am indebted to him for not misplacing them or any figures involved (Table 1).

No data for the level of Blue Hill Bay at such a remote time has yet become available. A.L. Bloom, William Byers and the author recovered a fragment of a large root, still in place, from undisturbed gray silty clay incorporating some stones that were exposed only at dead low water at the outer edge of a sloping shelf on the northeast side of Trumpet Island, Blue Hill Bay. The age of this root was 2970±140 B.P. radiocarbon years (Y-773, Stuiver and Deevey 1961). Tidal information on Coast and Geodetic Survey Chart 307 shows a range of tide from +10 to -4 feet from Mean Low Water. It is unlikely that this sample was collected at any but a neap low, since it was midsummer when we visited the island. Thus it could represent a difference of at least 10 feet. However, yellow birch does not flourish with its toes in salt water so that it seems safe to admit a difference of 13.5 feet, allowing 3.5 feet for the elevation of the tree above high tide. It could have grown at a greater elevation, but how much greater one cannot say. These data demonstrate sea level could not have reached the level of the birch tree

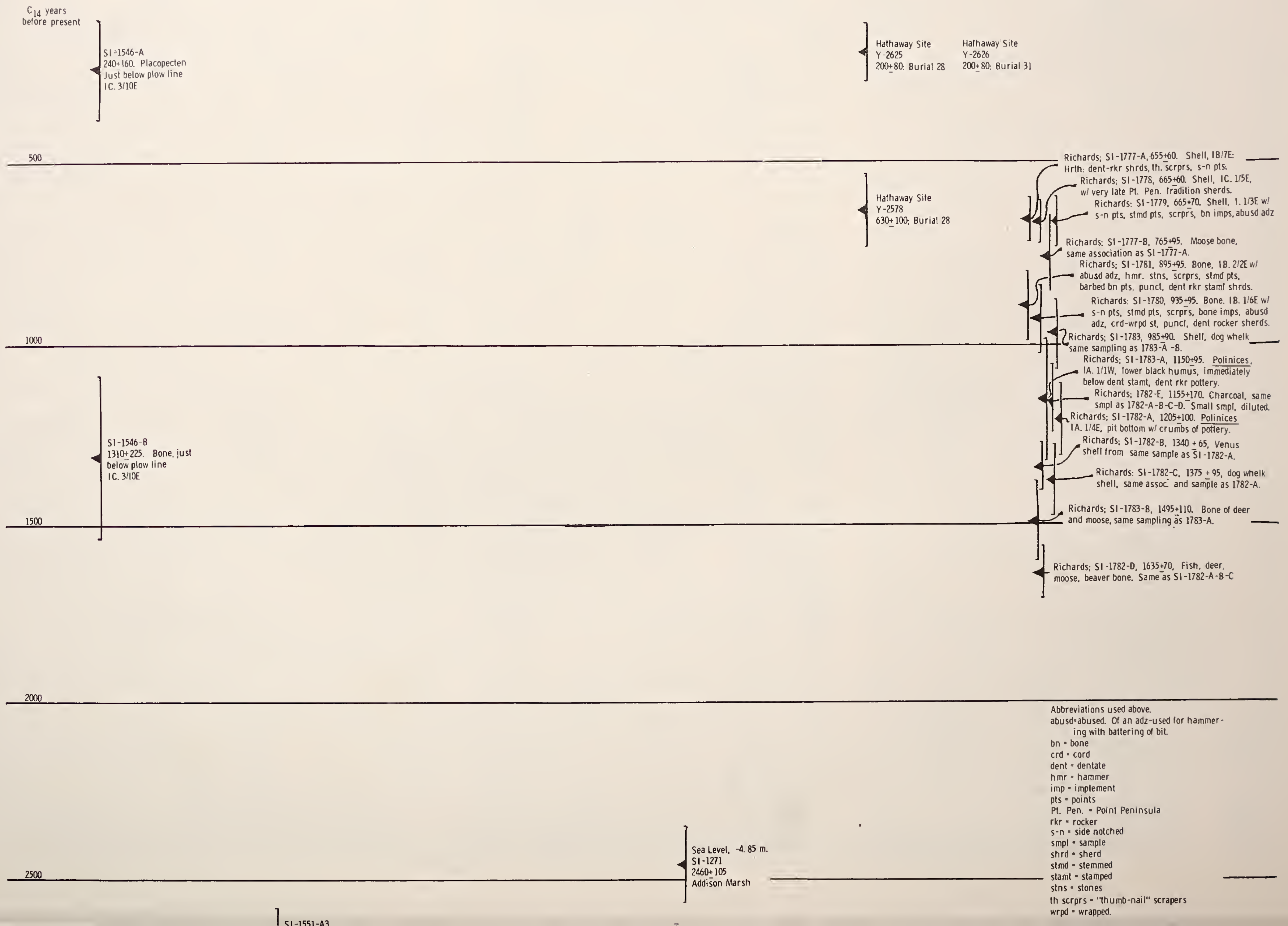
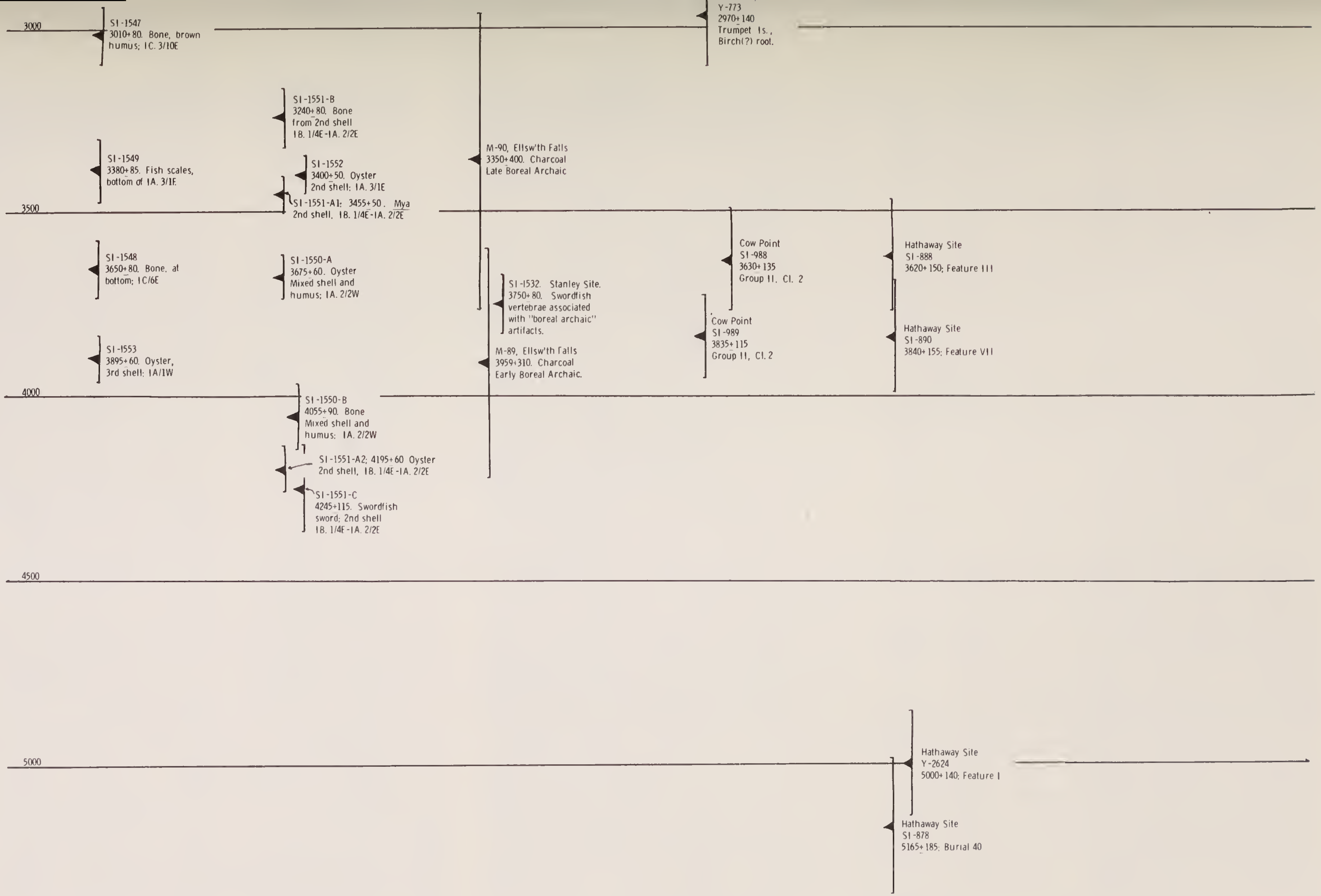


Table 1. Radiocarbon dates pertaining to the Nevin Shellheap and related sites.


3000
3500
4000
4500
5000
SI-1547
3010+80. Bone, brown
humus; IC. 3/10E
SI-1549
3380+85. Fish scales,
bottom of IA. 3/1E
SI-1548
3650+80. Bone, at
bottom; IC/6E
SI-1553
3895+60. Oyster,
3rd shell; IA/1W
SI-1551-B
3240+80. Bone
from 2nd shell
IB. 1/4E-IA. 2/2E
SI-1552
3400+50. Oyster
2nd shell; IA. 3/1E
SI-1551-A1; 3455+50. Mya
2nd shell, IB. 1/4E-IA. 2/2E
SI-1550-A
3675+60. Oyster
Mixed shell and
humus; IA. 2/2W
SI-1550-B
4055+90. Bone
Mixed shell and
humus; IA. 2/2W
SI-1551-A2; 4195+60 Oyster
2nd shell, IB. 1/4E-IA. 2/2E
SI-1551-C
4245+115. Swordfish
sword; 2nd shell
IB. 1/4E-IA. 2/2E
M-90, Ellsw'th Falls
3350+400. Charcoal
Late Boreal Archaic
SI-1532. Stanley Site.
3750+80. Swordfish
vertebrae associated
with "boreal archaic"
artifacts.
M-89, Ellsw'th Falls
3959+310. Charcoal
Early Boreal Archaic.
Y-773
2970+140
Trumpet Is.,
Birch(?) root.
Cow Point
SI-988
3630+135
Group II. Cl. 2
Cow Point
SI-989
3835+115
Group II, Cl. 2
Hathaway Site
SI-888
3620+150; Feature III
Hathaway Site
SI-890
3840+155; Feature VII
Hathaway Site
Y-2624
5000+140; Feature I
Hathaway Site
SI-878
5165+185; Burial 40

until at least 2970±140 years ago. There is no information as to the tidal amplitude in the Gulf of Maine at that time, but studies by Grant (1975) on the Fundy Shore suggest that it was considerably less. In addition, we must point out that no data exist regarding the amount of tidal scour represented by the depth at Blue Hill Falls. This has bearing on the time when salt water would be able to pass up through the Falls; the greater the amount of tidal scour the greater the rise in sea level necessary to invade the stream and pond.

Unpublished data from Addison March, gathered by Borns and others, appear elsewhere in this discussion. Although not corrected for compaction, they show a rise in sea level of the same order. To continue the curve backwards for another millenium would involve a drop in sea level of at least another meter and, quite possibly, closer to a meter-and-a-half, or two.

To drop sea level by five meters or more would drain Salt Pond and make the mouth of the present Falls into a sheltered inlet into which Carleton Stream discharged after draining the ponds and fresh meadow. It would have been an ideal spot for taking all species of anadromous fish that entered the stream to spawn. Behind a ledge that lies between the shellheap and the Falls, would have been a wide expanse (dotted in Fig. 2) that would have made a good campsite, sheltered from all winds except from the east and northeast, with ledges offshore to break up seas from that quarter. Heavy plummets and other artifacts were found there by C.R. Mitchell, then at the United States Fish Hatchery in Orland, who reported the site to the Foundation. His collection also included a fragment of a bannerstone, or atl-atl weight.

EXCAVATIONS

Excavations began in July, 1936 with a crew of six. Prior commitments allowed us only four weeks before we were scheduled to move to Martha's Vineyard. We traveled in two automobiles and were thus prevented from collecting and preserving all the refuse bone and other material that would be expected today (Fig. 3).

We established a datum point on a ledge and set out four basic stakes—I near the datum point, II on the point beyond the east end of the site, III at 90° from the I-II line and 182.8 m. north, the odd distance being dictated by the need to find an open spot in the rock ledge. Stake IV was set north of the I-II line and to the east, and served us in offsetting around some wild apple trees on the bank. Stakes were driven at 4-meter intervals along the I-III line and numbered IA, IB, IC, and ID. Subsidiary stakes at one-meter intervals were designated by a decimal point and a figure according to the distance from the stake north of which they were situated, as IA.2, IB.1, IC.3, etc. Lines to the eastward were divided at two-meter intervals, and designated ID/2E, IC.3/8E, etc. Each section was designated by the stake farthest away from the datum point. For example, the corners of Section IA.3/5E, were marked by stakes IA.3/4E and IA.3/5E, and stakes IA.2/4E and IA.2/5E. The resulting section was two-meters wide by one-meter deep and could be excavated without walking over all the exposed ground (Byers and Johnson, 1939). The system worked well and was extended to cover the entire site.

We commenced operations by trying to find the back edge of the site, first peeling turf and then troweling. The procedure was exploratory in every way. Also, we were attempting to develop a system of excavation and recording in order to document evidence of human activities about which we had only a vague idea. It proved to be the worst possible site on which to cut one's archaeological teeth.

Below the peeled sod, rocks occurred almost everywhere. Reasoning that the smaller ones must surely have been moved by the plow, we left only the larger ones in position. We found that at the back of the heap there were suggestions of curved arrangements of large stones, measuring two to three meters along the curve. Some of these seemed associated with burned areas. There was much evidence of plow disturbance in the form of broken glass and pieces of china, rusted nails, and even a rusted jackknife, and so it seemed most unlikely that any of these stones had escaped displacement. Nevertheless, we discussed the possibility that these were vestiges of dwellings or floors, and agreed that we had insufficient evidence to prove it.

Burned areas were of diverse shapes. Below the plow line in ID.1, ID.2, and ID.3/5E was a bed of white ash, not quite two meters long by thirty-five to forty centimeters wide, consisting of burned shell and animal bones. Small piles of stones were at opposite sides of each end, as if put there to support posts. Possibly the Indians were attempting to copy John White's drawing of a stand for smoking fish. There were, however, no post holes within the piles of stones to support such an hypothesis. Several "post holes" were discovered in the bottom of the heap, but they were scattered and apparently at random. The hearth complex could be followed down to the base of the heap, as if in successive years people had camped in the same general area without using the same identical hearth. Cross sections of such hearths show shell and black pebbles over another lens of shell, over more burned pebbles, to a depth of forty centimeters. In ID/5E was a combination of a hearth, an area of charcoal and broken stones, and a pit filled with burned

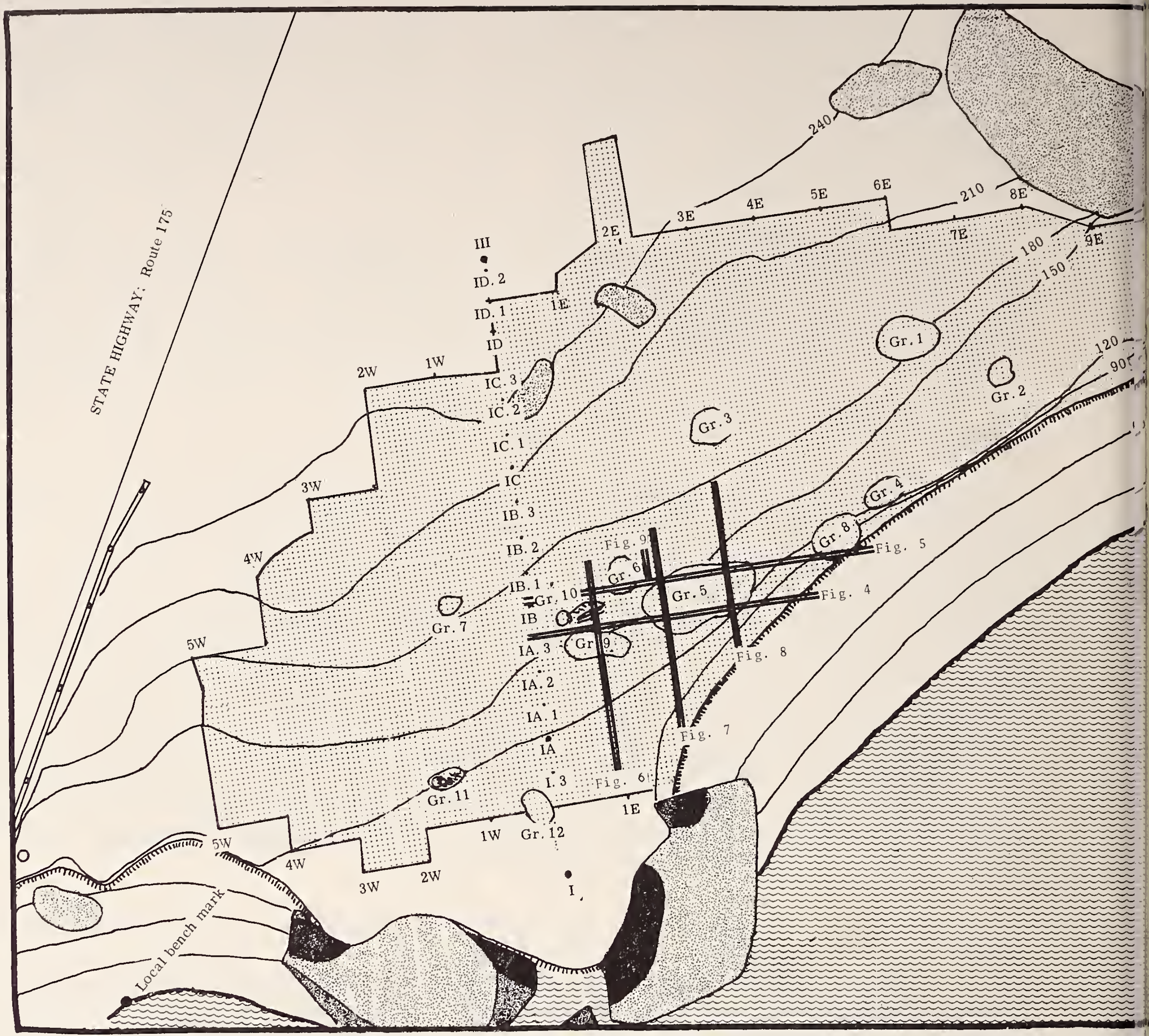
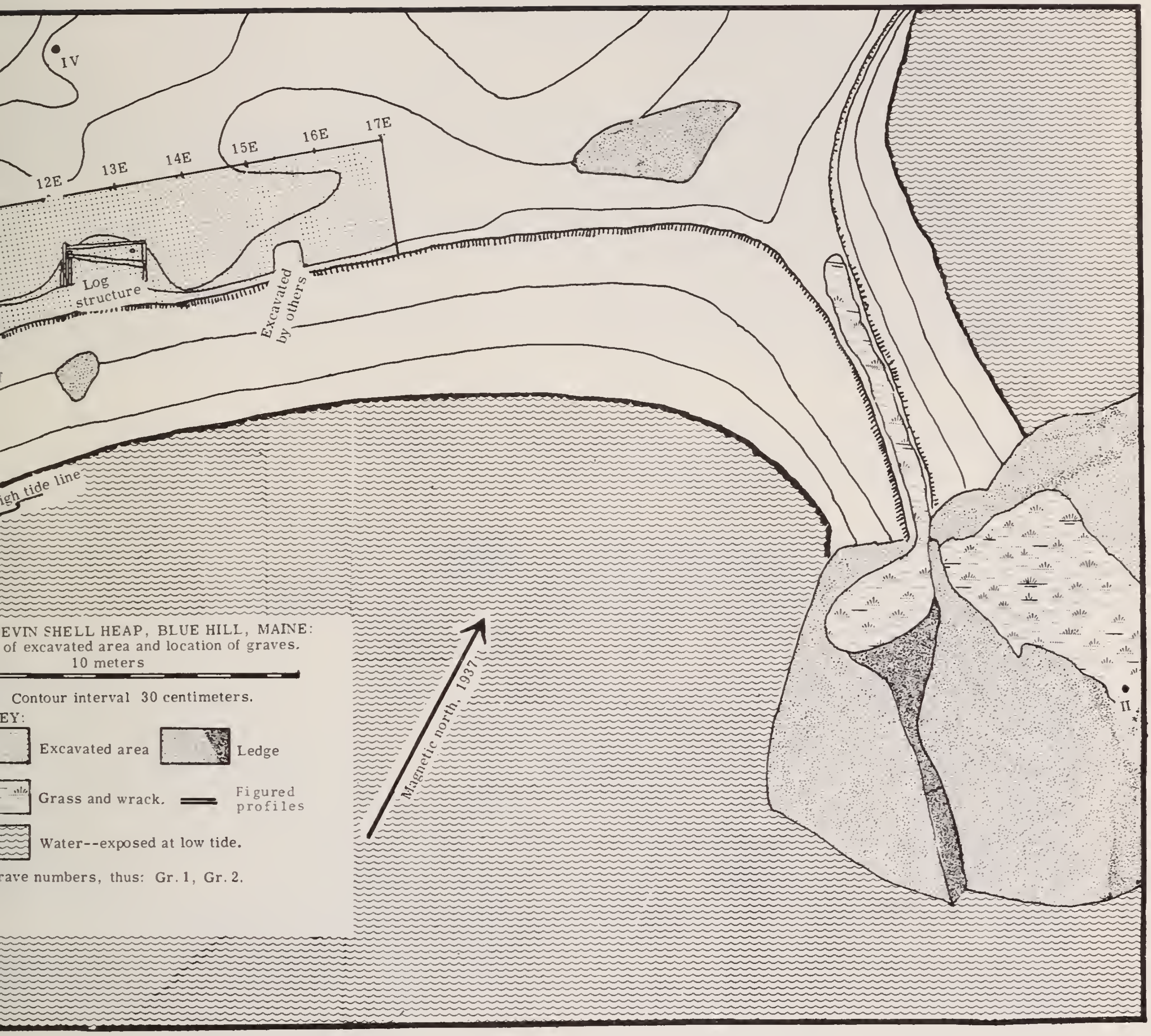


Fig. 3. The Nevin Shellheap, showing the grid system employed and the principal features uncovered.


IV
12E
13E
14E
15E
16E
17E
Log structure
Excavated by others
igh tide line
II
EVIN SHELL HEAP, BLUE HILL, MAINE:
of excavated area and location of graves.
10 meters
Contour interval 30 centimeters.
EY:
Excavated area
Ledge
Grass and wrack.
Figured profiles
Water--exposed at low tide.
rave numbers, thus: Gr. 1, Gr. 2.
Magnetic north, 1937

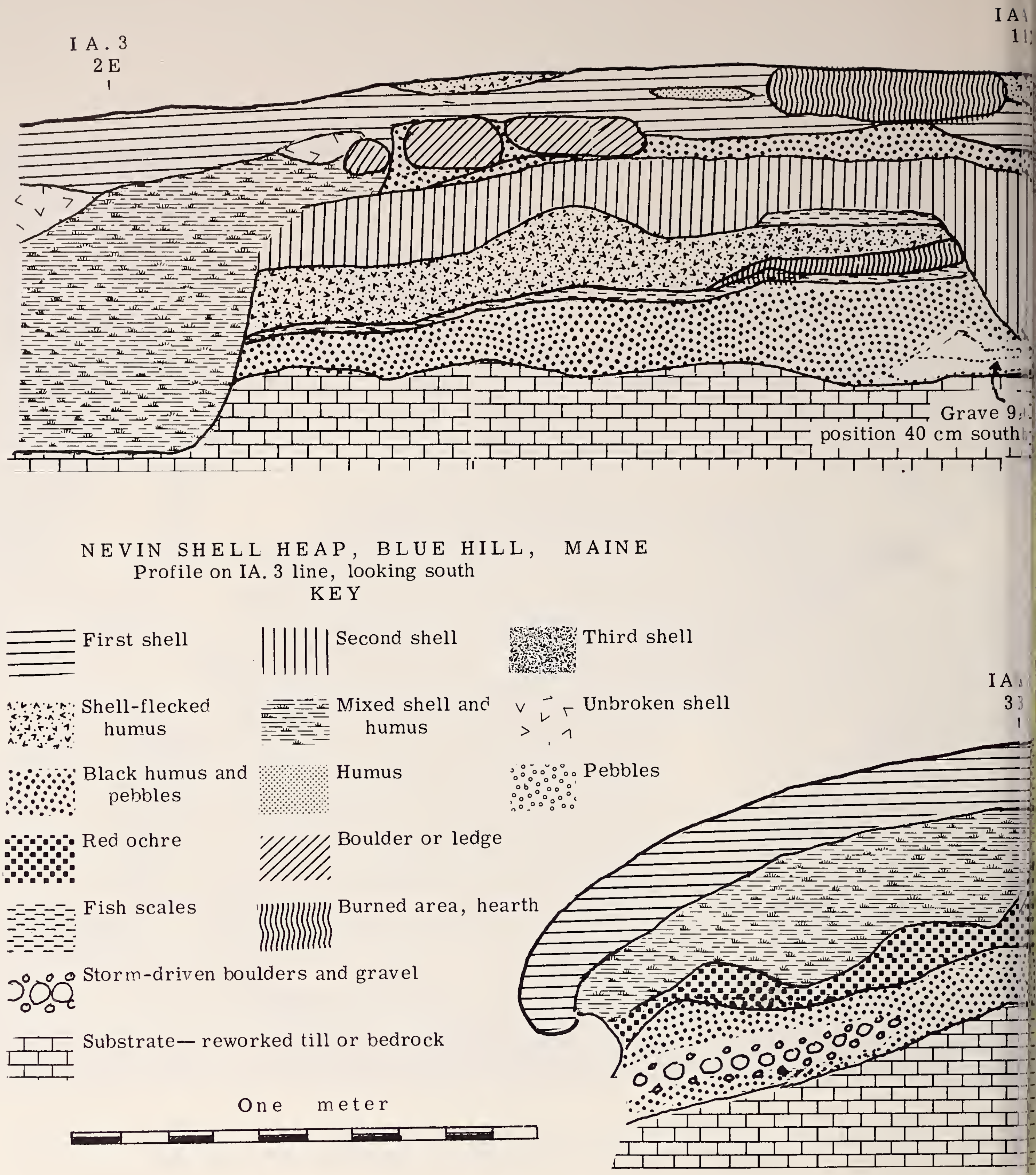
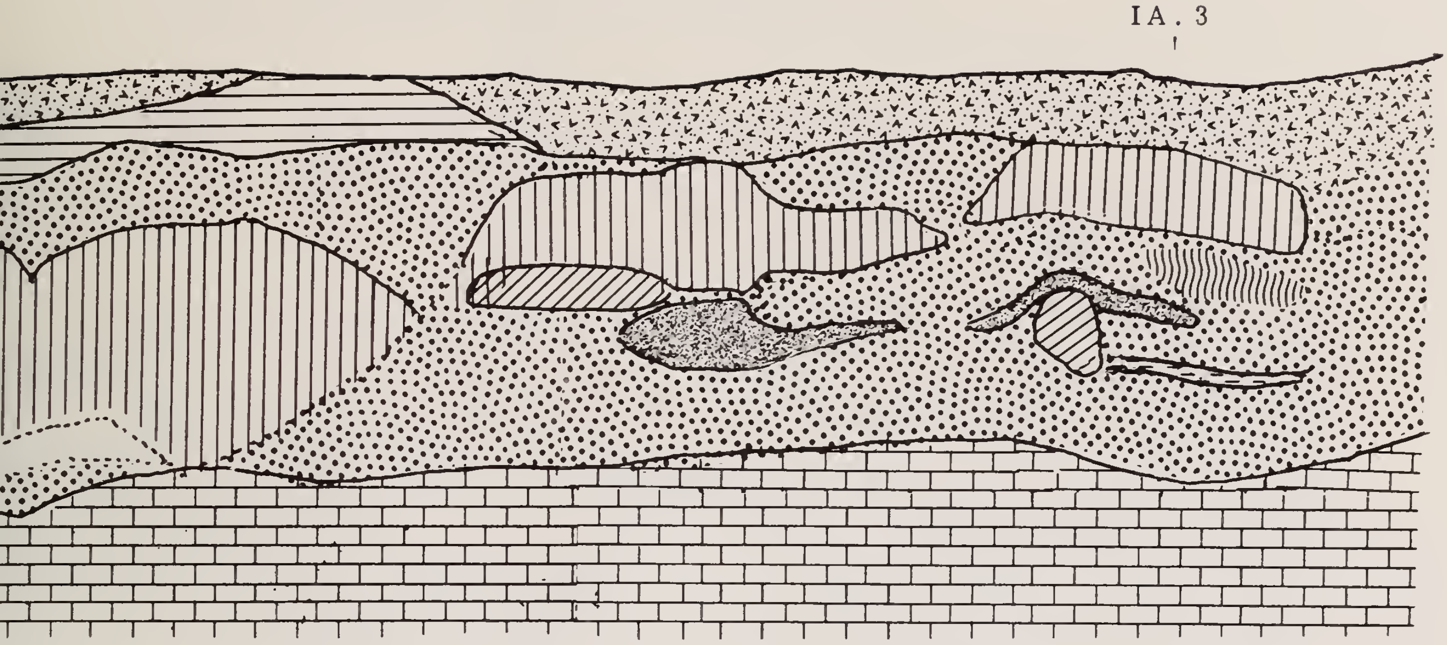
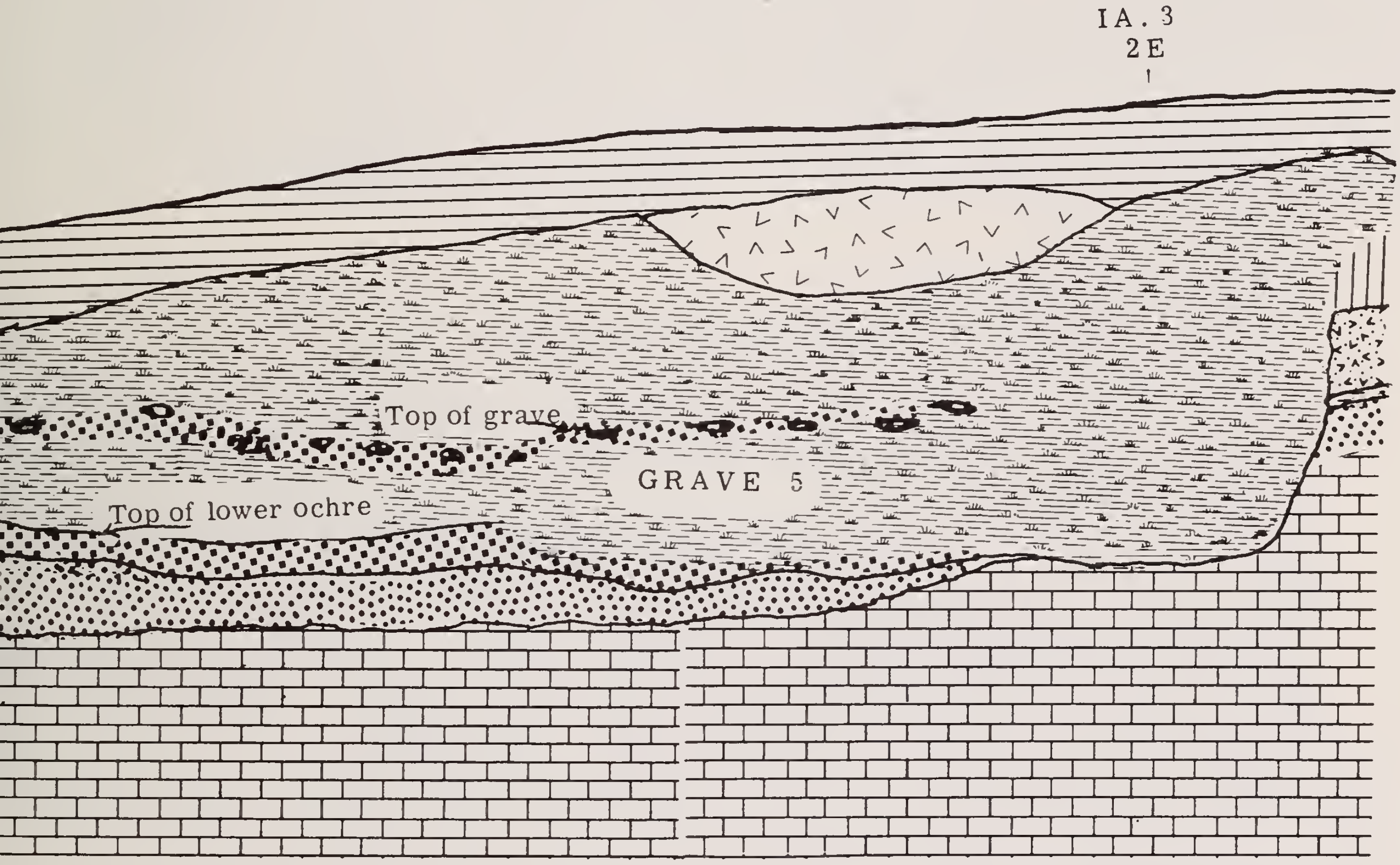


Fig. 4. Profile on IA.3 line, looking south, showing Grave 5 and position of Grave 9.


IA. 3


IA. 3
2E
Top of grave
GRAVE 5
Top of lower ochre

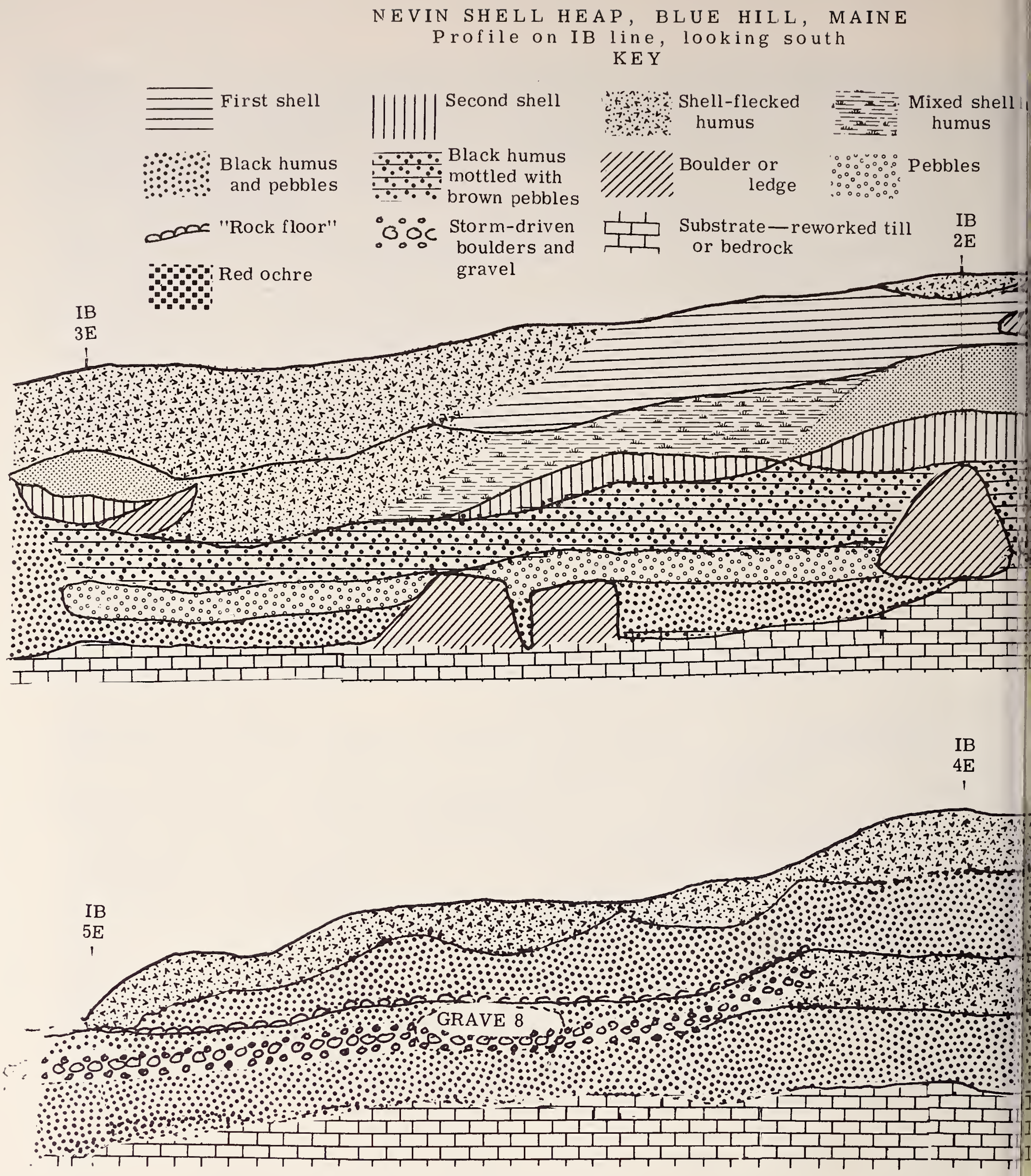
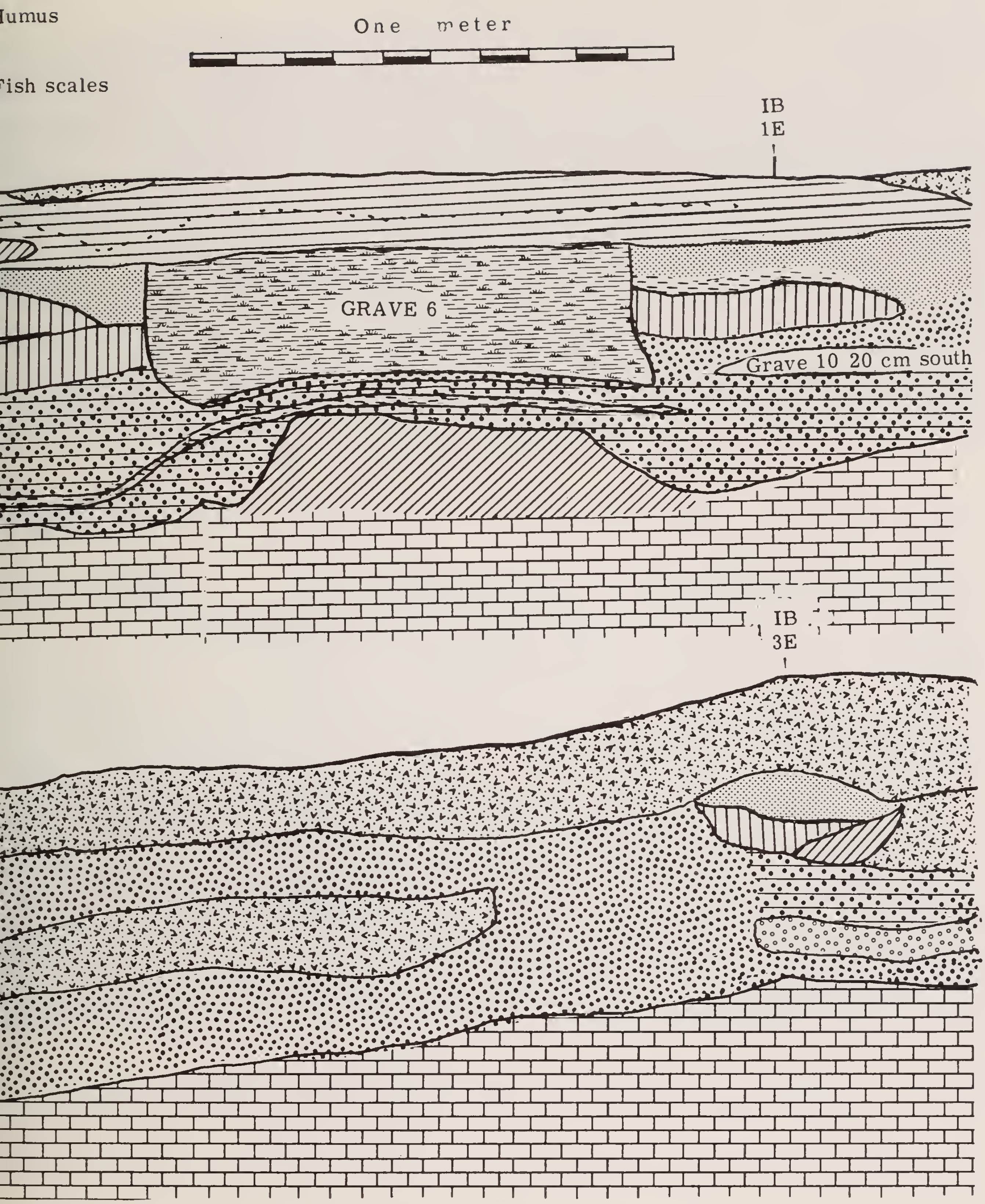

NEVIN SHELL HEAP, BLUE HILL, MAINE
Profile on IB line, looking south
KEY
First shell
Second shell
Shell-flecked humus
Mixed shell humus
Black humus and pebbles
Black humus mottled with brown pebbles
Boulder or ledge
Pebbles
"Rock floor"
Storm-driven boulders and gravel
Substrate—reworked till or bedrock
Red ochre
IB 2E
IB 3E
IB 4E
IB 5E
GRAVE 8

Fig. 5. Profile on IB line, looking south, showing Grave 6 and Grave 8.


umus
ish scales
One meter
IB
1E
GRAVE 6
Grave 10 20 cm south
IB
3E

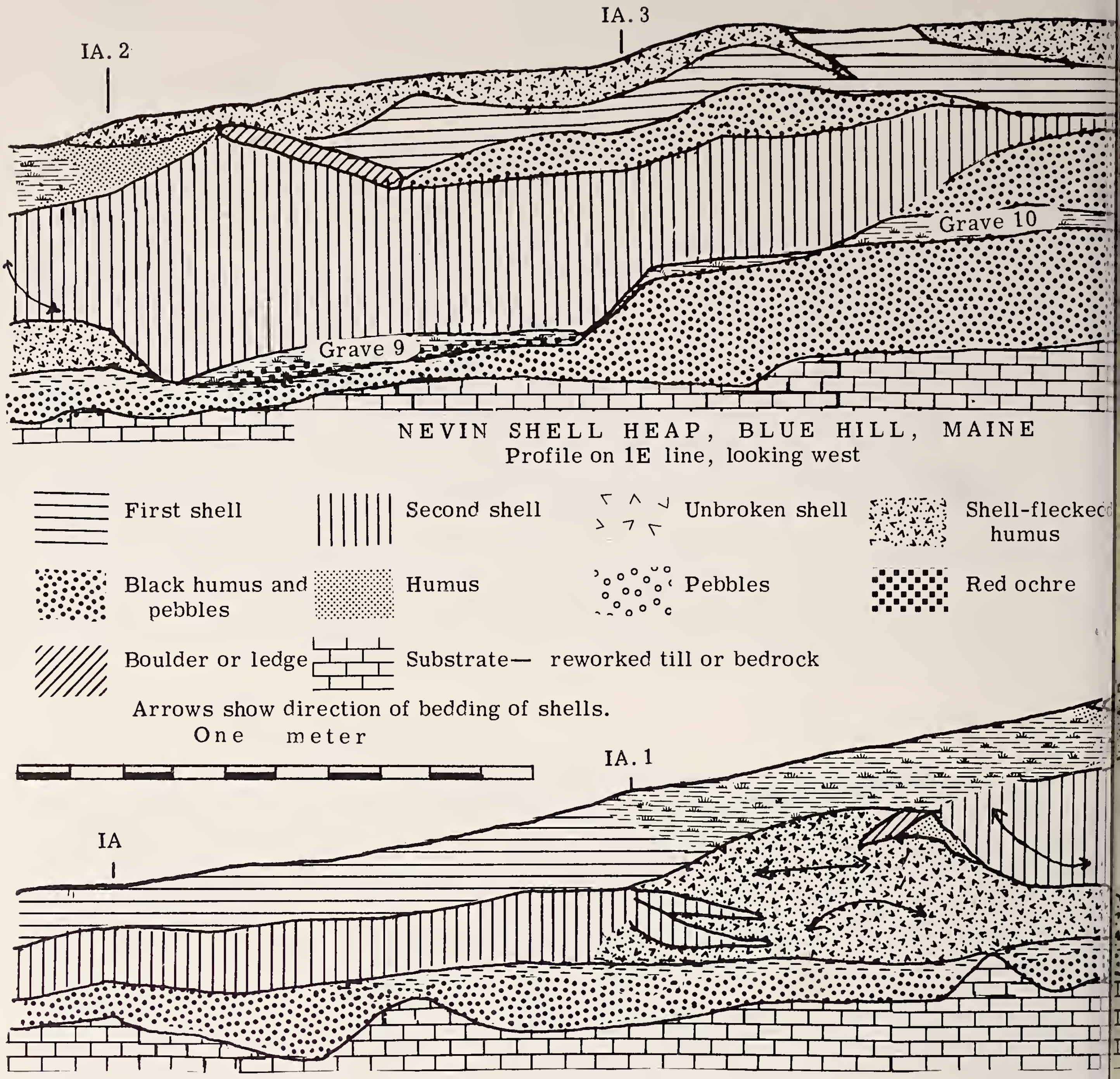
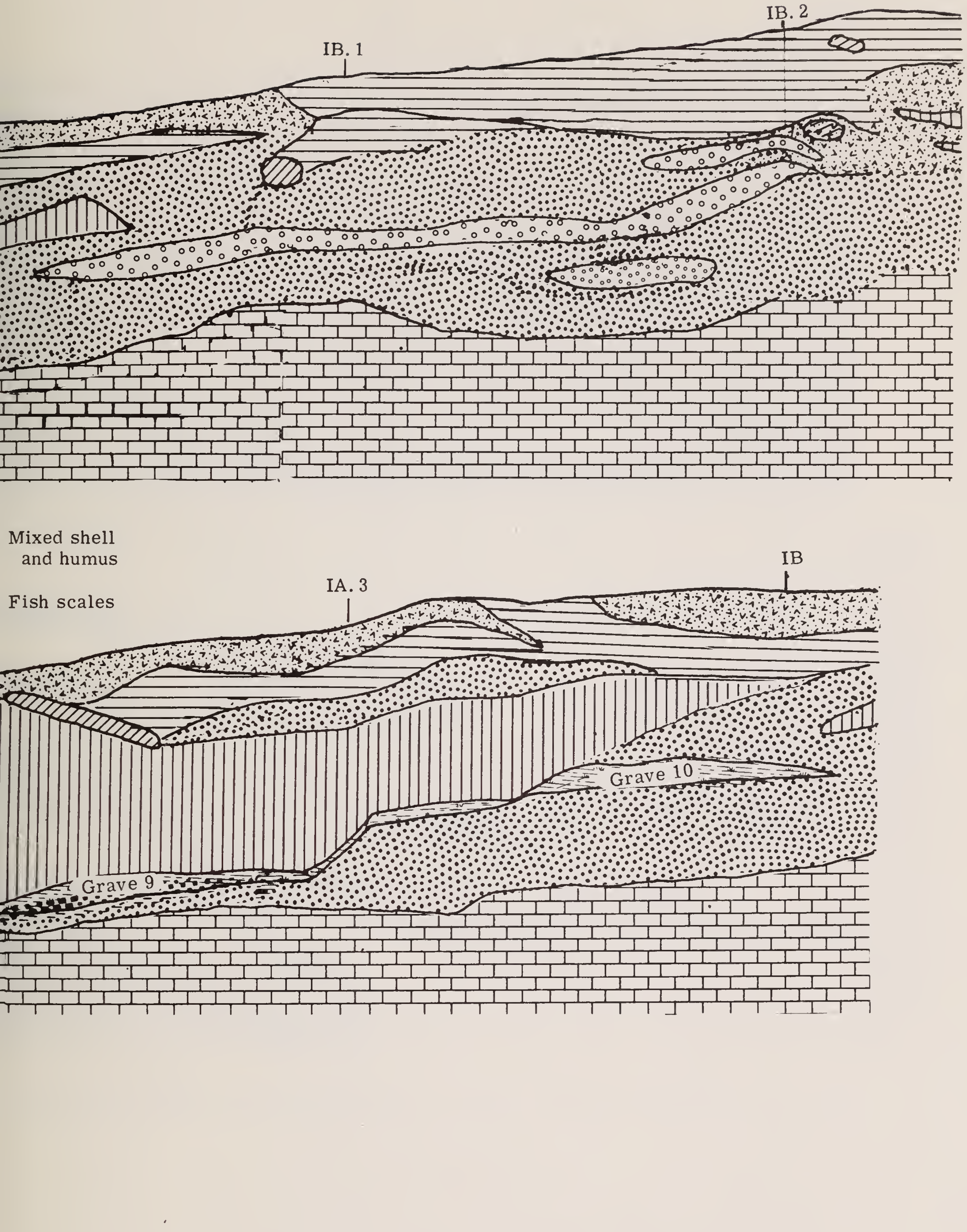


Fig. 6. Profile on 1E line, looking west, showing Grave 9 a
Grave 10.


IB. 2
IB. 1
Mixed shell and humus
Fish scales
IA. 3
IB
Grave 10
Grave 9

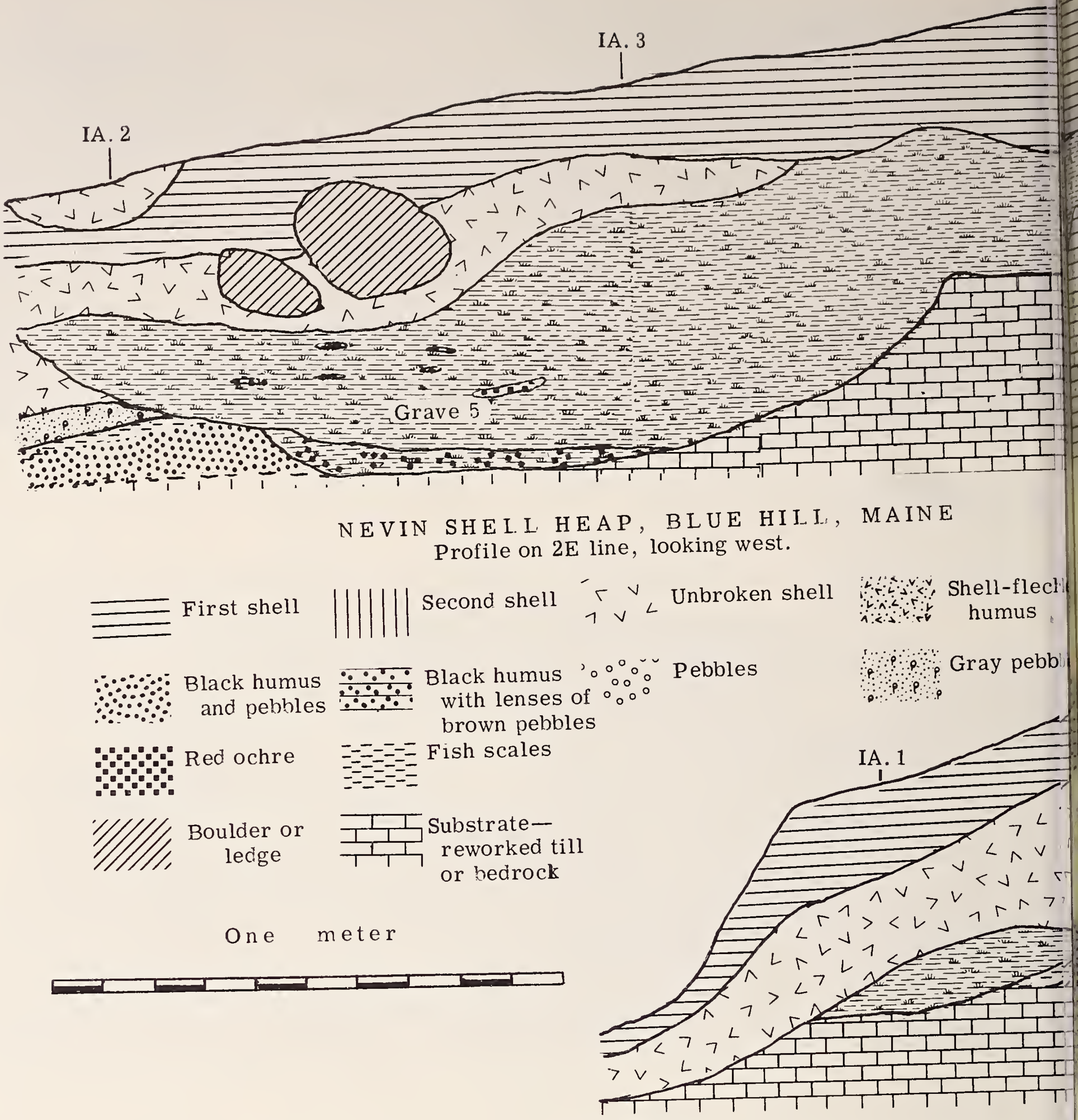
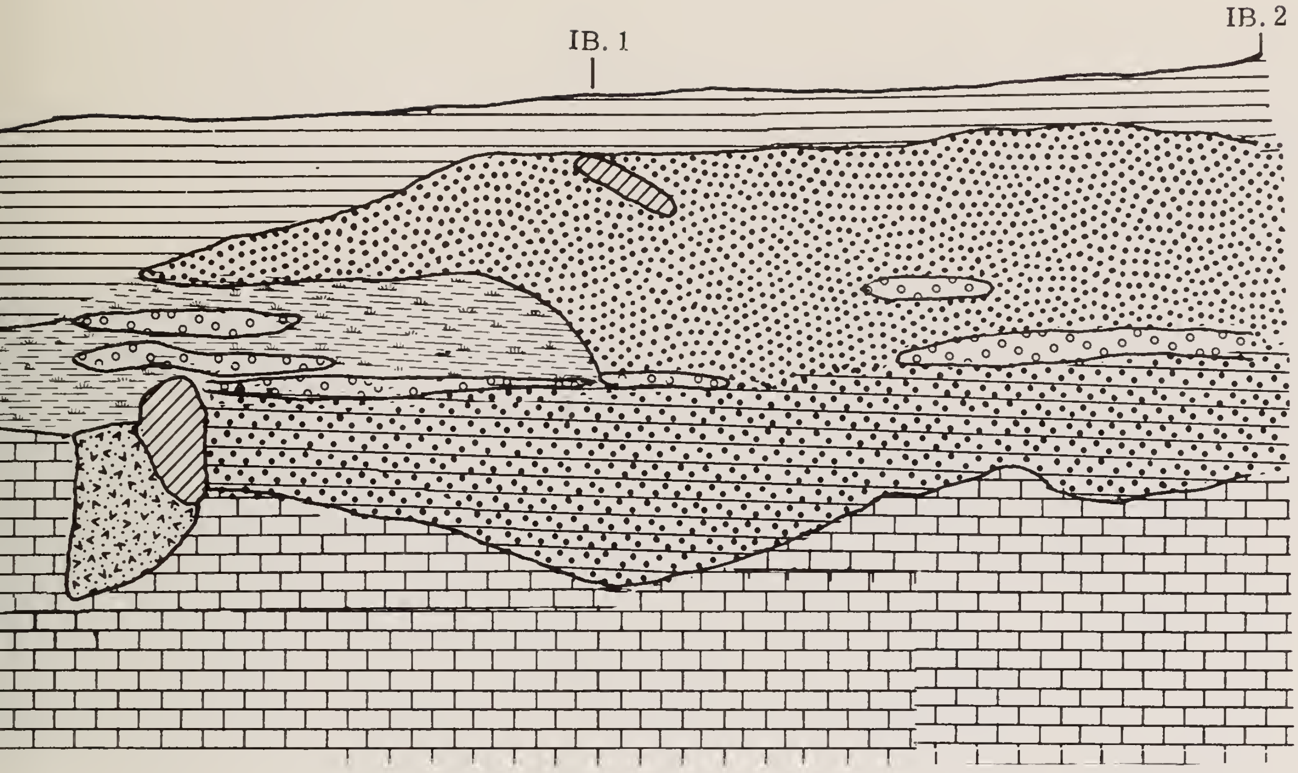
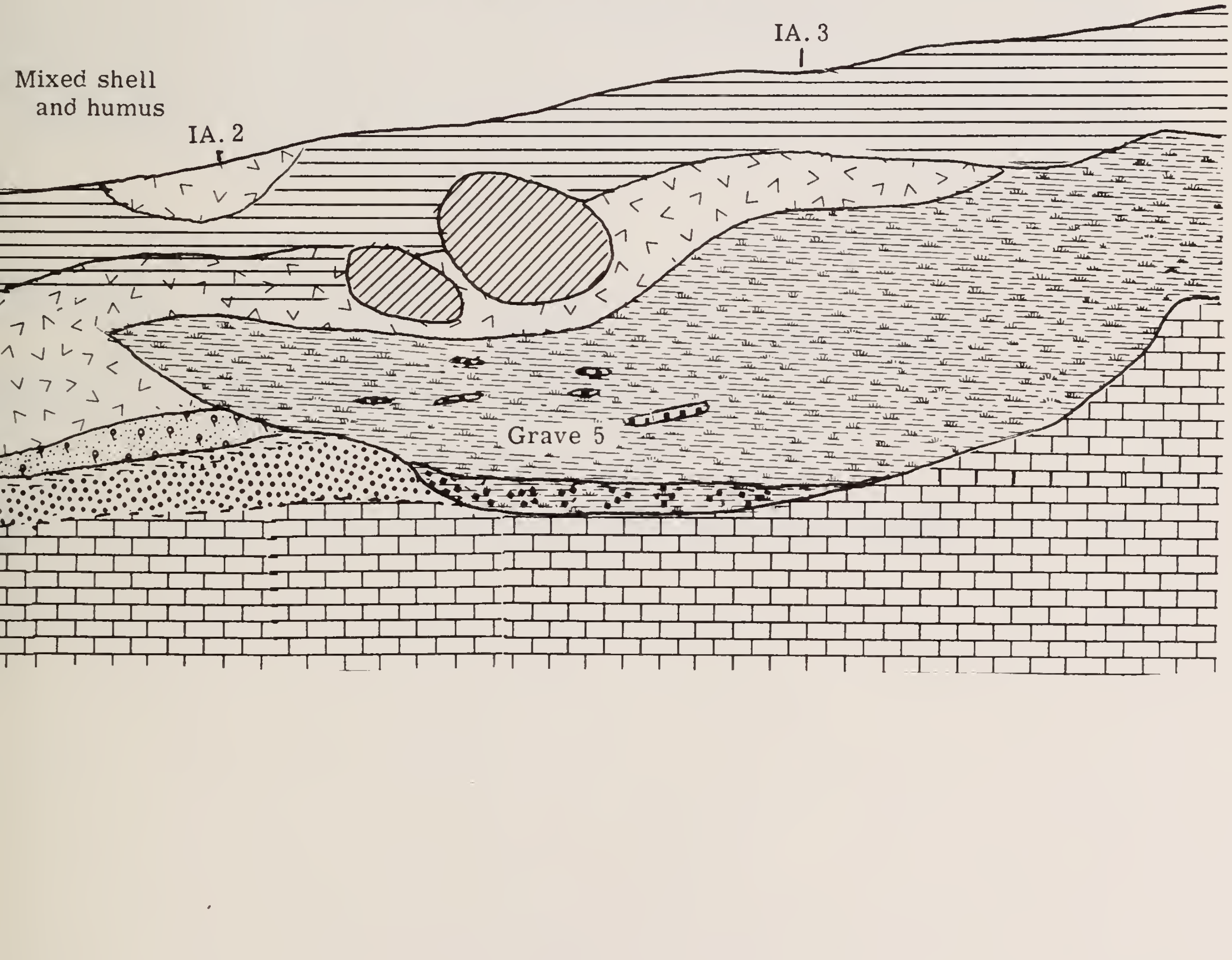


Fig. 7. Profile on 2E line, looking west, showing Grave 5


IB. 1
IB. 2


IA. 3
Mixed shell and humus
IA. 2
Grave 5

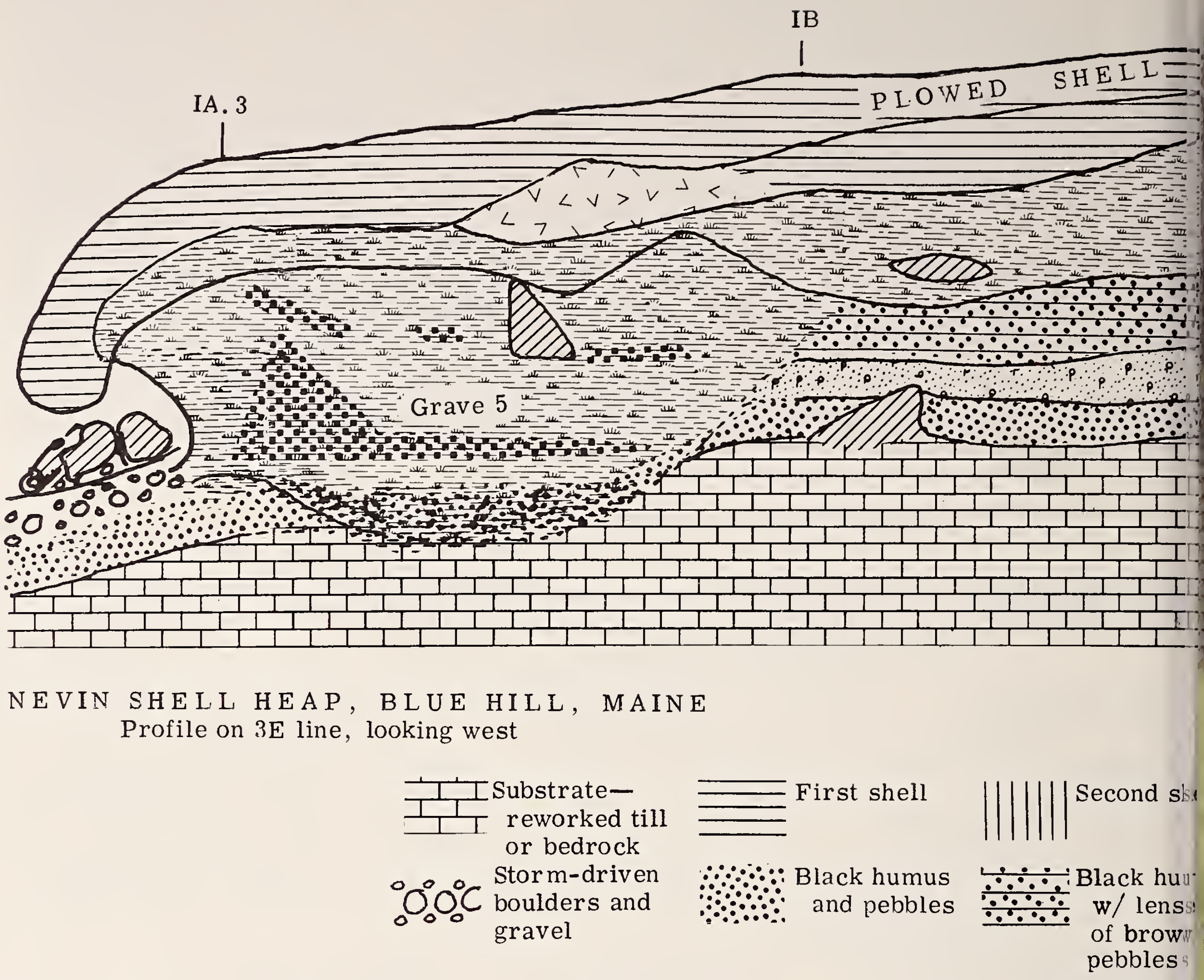
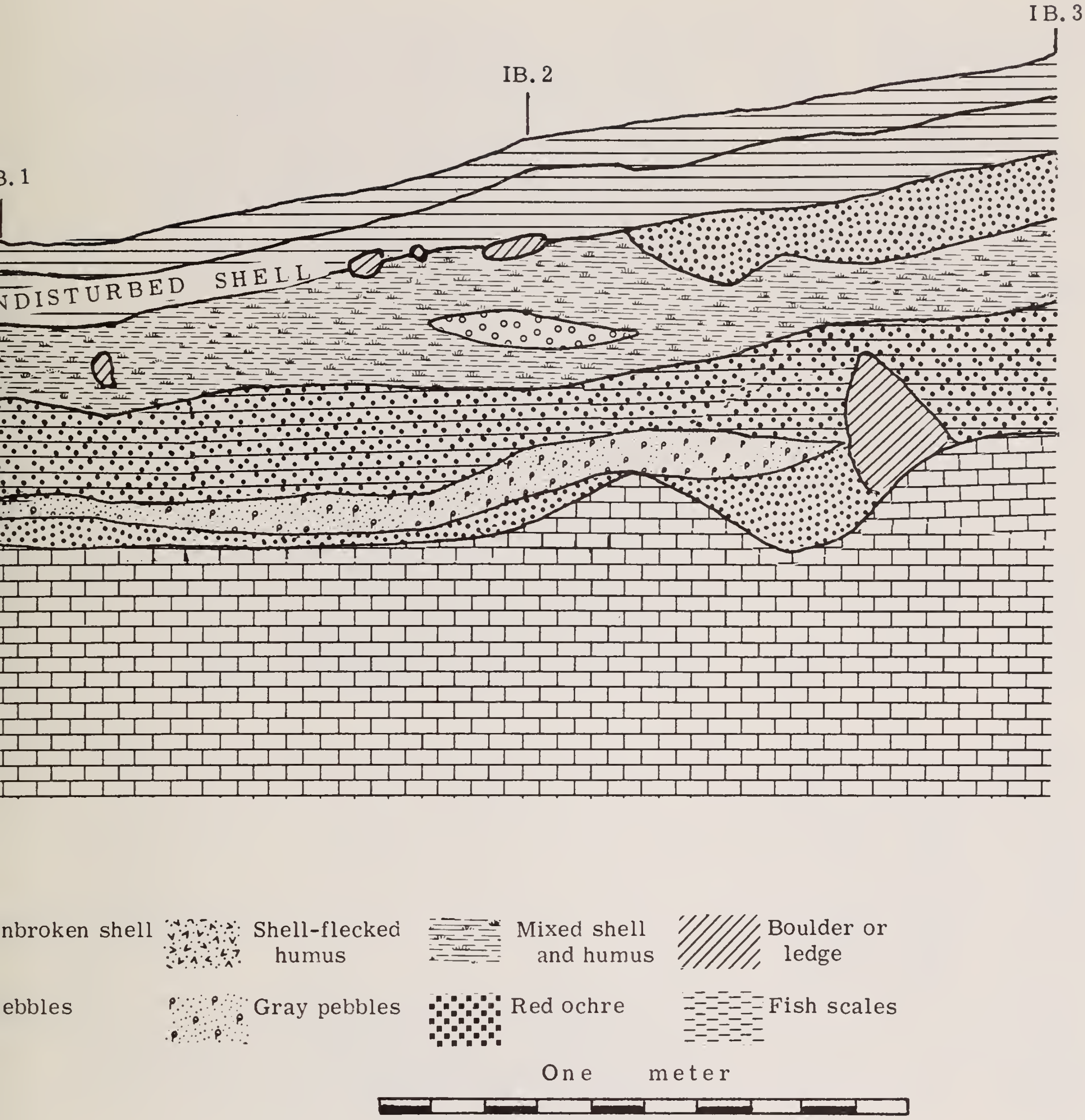

IA.3
IB
PLOWED SHELL
Grave 5
NEVIN SHELL HEAP, BLUE HILL, MAINE
Profile on 3E line, looking west
Substrate— reworked till or bedrock
First shell
Second s
Storm-driven boulders and gravel
Black humus and pebbles
Black hu w/ lens of brow pebbles

Fig. 8. Profile on 3E line, looking west, showing Grave 5


IB. 3
IB. 2
3. 1
NDISTURBED SHELL
nbroken shell
Shell-flecked humus
Mixed shell and humus
Boulder or ledge
ebbles
Gray pebbles
Red ochre
Fish scales
One meter

stones, ash, and burned shell—an association such as one might expect with a sweat bath. Some burned areas were nearly circular, others, oval, and others of odd shapes.

Extensive areas of small stones covered many square meters of the heap below the plowed zone. They seemed to form a "floor" and may represent an old living surface. They were found chiefly at the back or northern side of the site, although a vestige of one turned up near Grave 8 and seemed to overlay it.

Pebbles in thick beds were always associated with burned areas. While it was tempting to think of them as floors, or bases of beds inside dwellings, we were never able to outline a dwelling. The color of pebbles varied from brown, without ash, through black, with charcoal or humus, to red, with ash and burned shell. They were not found in shell layers, but were found where there was refuse bone and signs of fire. As there are no extensive beds of washed gravel on Mill Island, the pebbles had to be introduced to the site. Furthermore, they seem to be associated with living areas rather than with refuse heaps.

We did not learn until much later that the extensive disturbance we found at the site was attributable to settlers as well as Indians. Mill Island was the location chosen in 1762 for the first white settlement in Blue Hill (Clough, 1953). A log structure found in Section IC/13E may date from this time. The age of a shell of Placopecten from the First Shell layer of Section IC.3/10E (240±160 years B.P., SI-1546A) suggests that the scallop formed part of a meal for one of these settlers. The fertile soil of the shellheap was plowed and leveled in the course of developing Mill Island, so that the surface left by the Indians was inextricably mixed with the debris of later occupations.

White men were not the only ones to disturb the site. The native inhabitants dug twelve graves, one of which (Grave 5) was reopened. In the course of digging graves, the aborigines turned things topsy-turvy in some parts of the site. As if that were not enough, at some earlier time a strong southeasterly blow had overturned a group of trees in the western part of the site.

At the close of the 1936 season we had uncovered two graves, had found numerous hearth areas, and had located the northern boundary of part of the site. When the dig was closed it was sheathed with slabs from the shingle mill on Carleton Stream. When the 1937 season began these slabs were still in place and we were confident that the excavation face had not been disturbed.

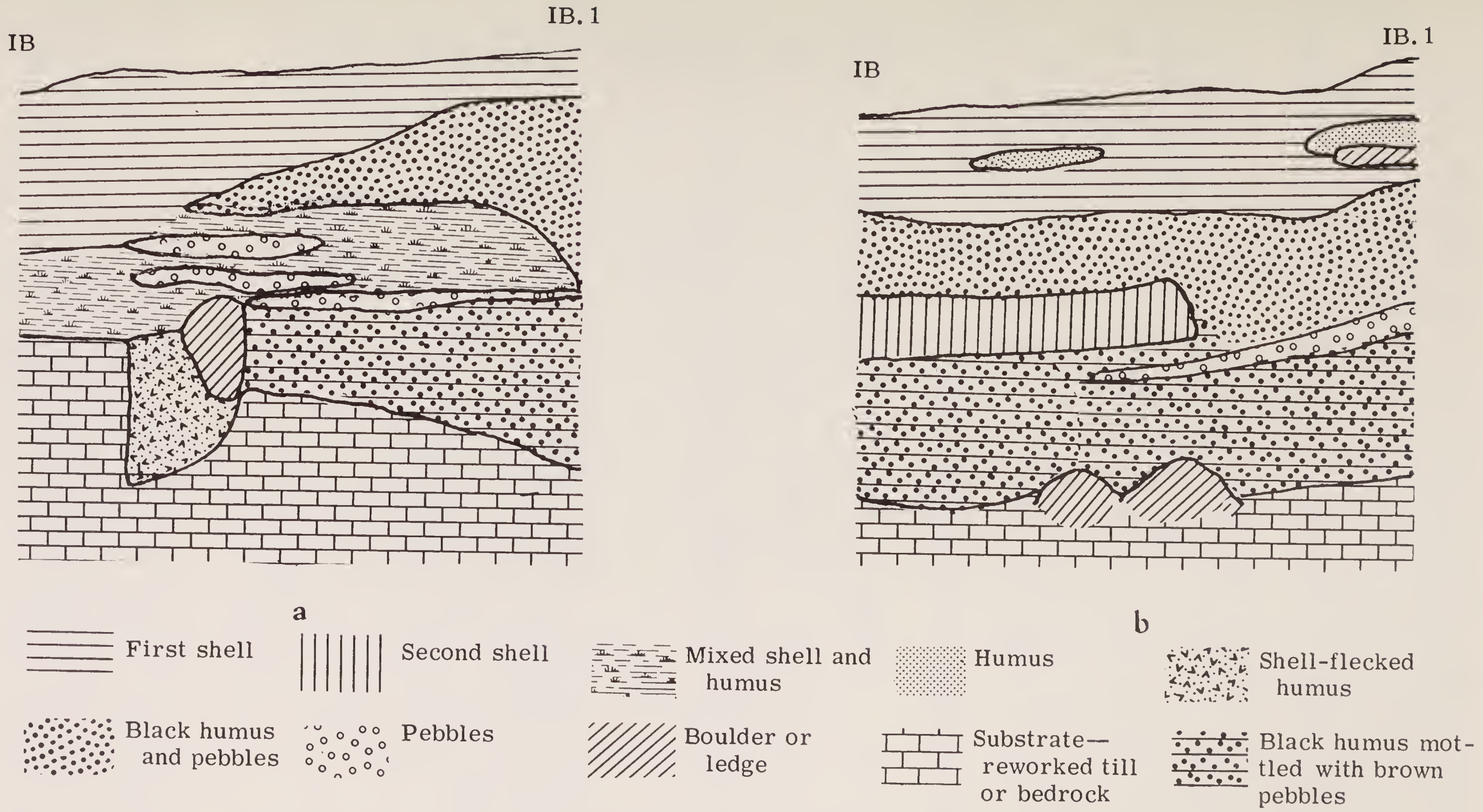


Fig. 9. Profile on 2E line between IB and IB.1 to show difference between (a) profile drawn 20 cm. east of 2E line, and (b) profile drawn 20 cm. west of 2E line.

Although we were aware of some of the problems, we still had no means of accommodating all the refuse bone, but we did have a field laboratory where preservation of bone tools could be carried through preliminary stages. We were still forced to discard much of the refuse bone and keep only peculiar or unrecognizable pieces. For this reason, estimates of the animal populations represented by the refuse bone and shells cannot be given.

Excavation in 1936 had exposed a complex stratigraphy. The uppermost zone was clearly disturbed by plowing for it incorporated broken glass and items of non-aboriginal manufacture. Traces of furrows were identified in several parts of the site; they appeared as alternate bands of humus and shell and show that the heap was plowed across the slope from northwest to southeast, turning the furrows downhill. Thickness of the plowed zone was not constant, not only because this activity tended to move the surface downhill, but also because successive plowings tended to reduce high spots and fill the hollows. (Figs. 4, 5, 6, 7, 8, and 9).

During 1937 evidence became more apparent that the occupation of the site spanned a long period of time. First, pottery came from the plowed zone or directly below it. Second, differences in the deposit based on the manner in which it was laid down—texture of shell and freedom from humus—caused lenses to stand out and layers to be apparent. Third, differences in species of shellfish represented were noted. Some zones of shell contained many mussels, oysters, and quahogs (Venus), while other layers lacked a large proportion of these and were composed almost entirely of soft-shell clams (Mya). Two shell masses are recognizable below the upper shell layer. These were designated A and B. They proved not to be coterminous with the later deposit and probably represent deposits laid down by either a small occupation, or a population centered on the beach, below the present highwater mark. Fourth, in some parts of the site a still lower bed of shell was found. Finally, below everything was a humus-rich zone, devoid of shells, but heavily mixed with bones of mammals, birds, and fish, as well as fish scales. Pebbles about the size of a pea were mixed in this layer as they were in other humus-rich layers. This midden deposit had accumulated over reworked till or ledge.

BURIALS

In the portion of the heap that remained to us, we found that the inhabitants had dug twelve graves to dispose of twenty-two bodies. The burial rite included the sprinkling of red ochre in varying quantities over the remains of all but one. Some were committed to the ground as primary burials, in the flesh, others were secondary burials of bones

BURIALS IN THE NEVIN SHELL HEAP

GRAVE NUMBER	AGE AT DEATH	SEX	POSITION	RED OCHRE	GRAVE GOODS (only major items listed)
Primary burials					
(1)	Old adult	Male	Flexed on left, head to west	+	Bone tools, including beaming tool , and unknown forms that may be spear thrower
(2)	Newborn	?	Extended	+++	Bone tools, including 2 foreshafts of swordfish sword, two pointed tools of new form, male harpoon point, metapodial awls, "club" made from human left humerus sliver of bone (preform of needle?), small hammerstone amd iron pyrites; curl of birchbark may be remains of birchbark shroud or wrapping.
(3)	ca. 16-18	Female ?	Flexed	+	Artifacts in doubtful association include plummet, side-notched point, and iron pyrites.
(6)	?	?	?	+	Bone awl, split metapodial awl, fragment of ground beaver incisor, fragment of barbed bone point, iron pyrites, curls of birchbark
(7)	Infant	?	?	++	2 slate spears, iron pyrites, hammerstone, adz, caudal vertebrae of young porpoise(?)
(10)	Young adult	Male	Flexed on right, head west	-	Doubtful association of bone artifacts, probably in underlying midden.
(11)	Old	Male	Flexed on left side, head west	+	Gouge in crook of arm, dogfish spine at head, turtle shell at face.
(8)	Middle aged	Male	?	++	Badly disturbed by waves. No artifacts in direct association. A gouge and two hammerstones, ground beaver incisor, cut bone point, barbed fishbone point, two felsite flakes of which one was in red ochre; other artifacts probably in midden.
	Old	Female	?		Old female represented by fragments of mandible, probably in midden.
Secondary burials					
(12)	5-9(?)	?	Bundle skull north	+	Long bone awl, chipped felsite spearhead.
(4)	Three bundle burials, each with skull north, all disturbed by wave action.				
A.	Middle aged	Male		+	No artifacts in direct association
B.	Young adult	Male		+	Fragments of long bone tool lay to east, two beach pebbles to north
C.	?	?		++	Bone "pike head", adz-gouge, adz fragment, canine teeth,of fox(?)
(5)	Seven burials, some primary and some bundles, Moose-antler, male harpoon and swordfish sword foreshaft on edge of grave pit on north side, plummet and three fragments of pointed bone implement beyond ochre on south side.				
I.	Child	?	Extended head north left side(?)	+++	Three bone daggers in fragments over arms. Bundle of eleven bone daggers lay to the east of I and II and may have been intended to serve for both.
II.	Infant	?	Extended (?) head north(?)		
III.	Young adult	Female	Much disturbed		
IV.	1s part of III				
V.	Young adult	Male	Bundle, skull north	+	Two shattered bone tools, fragment of "pike head" or spear thrower, butt of bone awl. V and VIA-B disturbed by waves. Between V and VIA-B, 7 daggers, antler socket, three beaver incisors, cut bone point
VIA.	Infant	?	Extended(?)	+	2 lumps iron pyrites, a plummet, small 2-barbed bone point, 2 incised daggers "pike head" or spear thrower.. Association with either burial hard to determine because of disturbance by waves and undercutting.
VIB.	Child	?	?	+	
VII.	6-9	?	Bundle, head at north	+	Perforated canine teeth. Possibly part of necklace or sewn on garment.
VIII.	Infant	?	Bundle	+	Perforated canine teeth. Possibly part of necklace or sewn on garment.
(9)	Five burials, three bundles, two, probably extended. A deer antler butt fashioned to a socket and a human atlas lay outside the limit of the red ochre to the south.				
I.	Sub-adult	Male	Bundle, skull at north	+++	7 bone daggers, 4 double pointed awls, bone needles, beaver incisors. Between I and II were two pieces of iron pyrites.
II.	Adolescent	?	Bundle, skull at north	+++	Incised bird bone flute, 5 bone daggers,fragments of a dagger, worked beaver incisors, antler socket.
III.	Young adult	Male	Bundle,skull at north	++	None
IV.	Young child	?	Flexed on right side	++	(With III)
V.	Infant	?	Extended(?)	++	(With III) 1 Bone dagger over ribs.

Table 2. Graves in the Nevin Shellheap with age at death, sex, burial position, and grave goods noted.

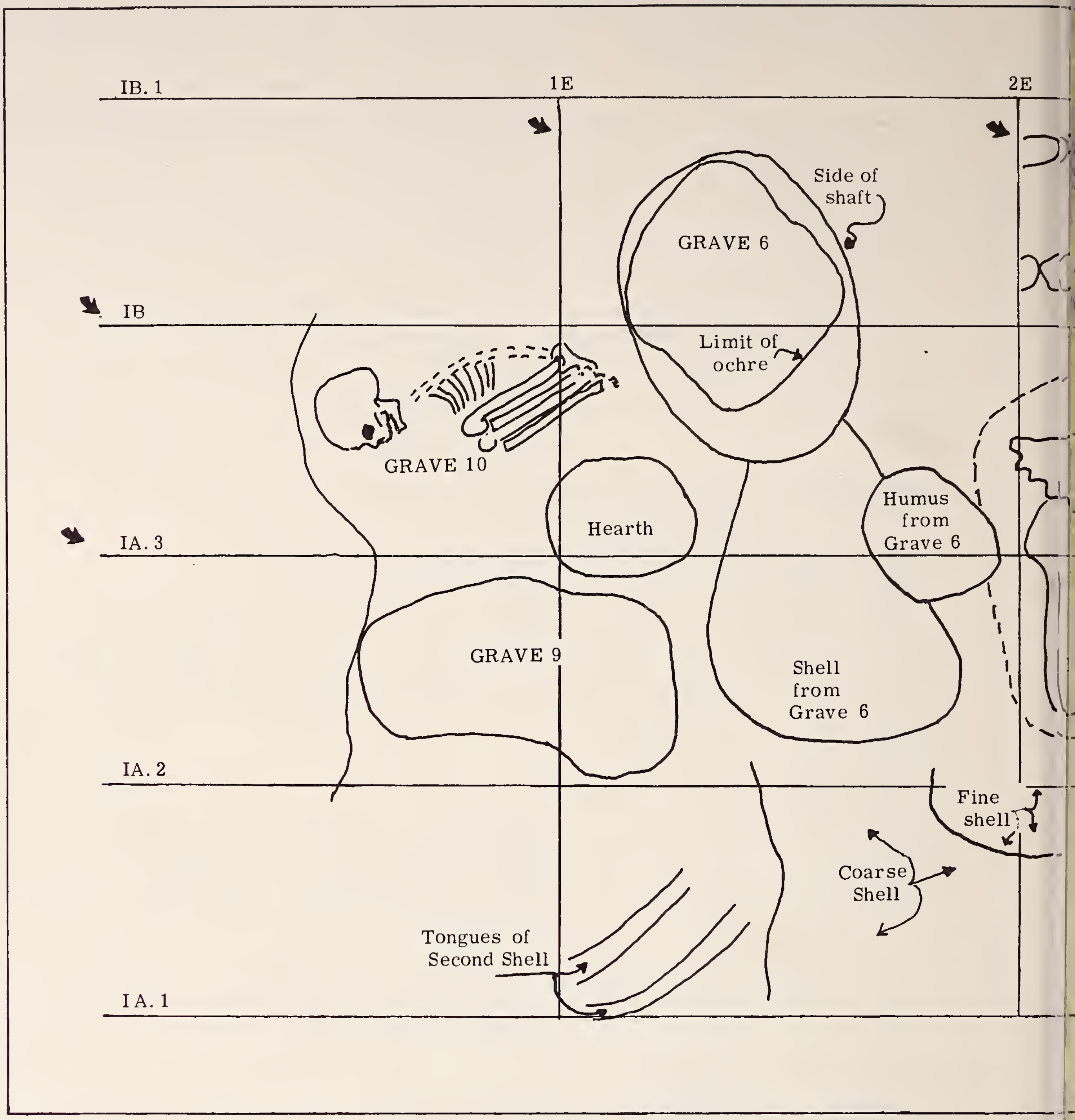
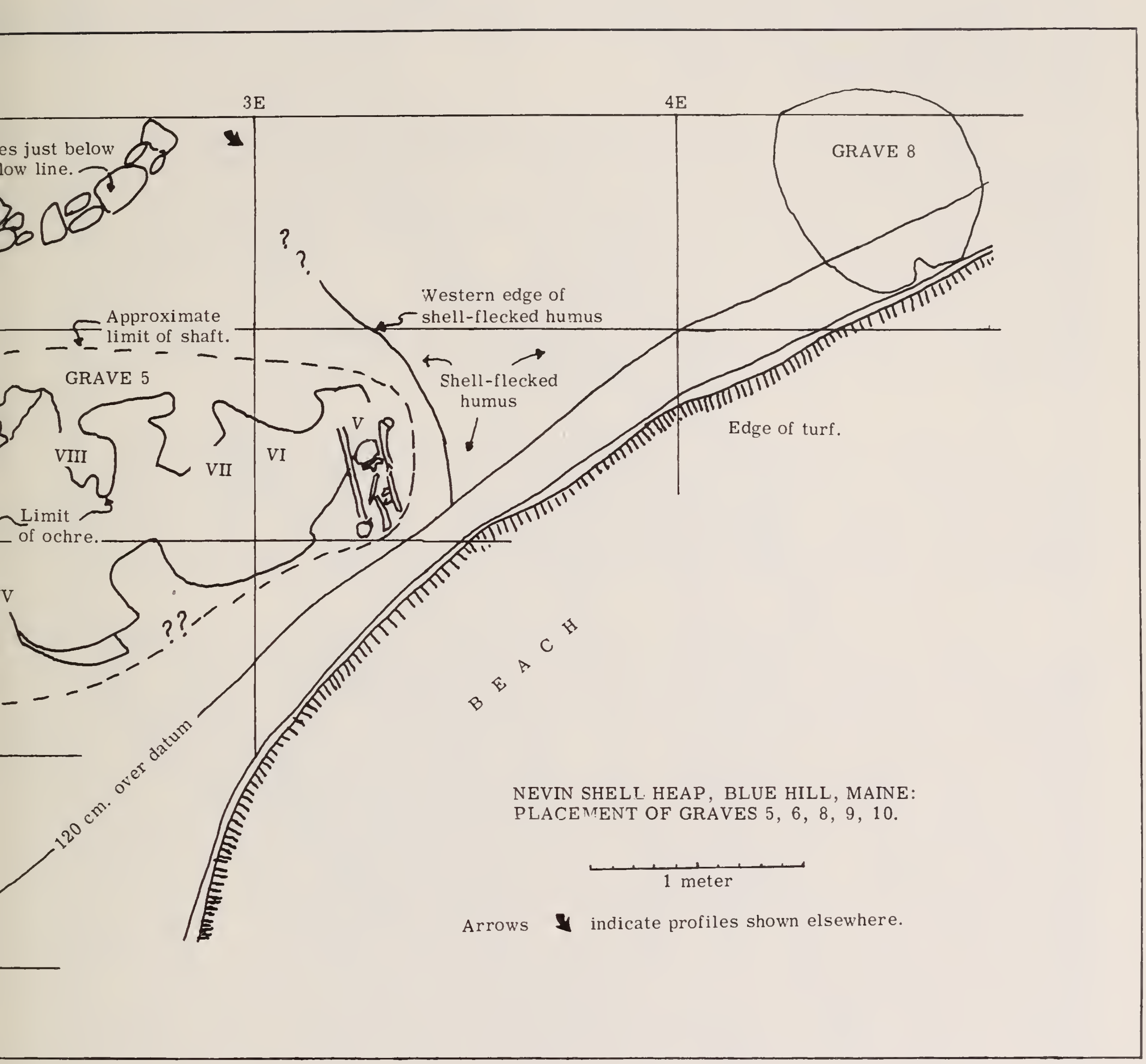


Fig. 10. The Nevin Shellheap showing relation of Graves 5
8, 9, and 10.



NEVIN SHELL HEAP, BLUE HILL, MAINE:
PLACEMENT OF GRAVES 5, 6, 8, 9, 10.

Arrows ➘ indicate profiles shown elsewhere.

gathered and placed in the ground after the flesh had left. Distinguished on this basis were two groups, as follows: Primary burials include Graves 1, 2, 3, 6, 7, 10, 11; secondary burials include Graves 4, 5, 9, and 12. Remains of two or three children were included with bundles in Graves 5 and 9; they may have been primary extended burials. (Fig. 10, Table 2)

Primary Burials

Grave 10 (Fig. 11) was distinct in that it lacked artifacts and there was little evidence of ochre. The body was flexed loosely lying on the right side with the head west and face south. It lay on a mixed midden in which were artifacts and pieces of artifacts, but none of these seemed to be specifically associated with the body. Traces of ochre were seen in the midden. They may have been a scanty tribute, but certainly none was found on the bones. Professor Hooton of Harvard University identified the restored calva as that of a young, adult male.

It was not possible to identify the level from which this burial was dug. Its southern margin was within fifty centimeters of Grave 9. It lay just below or in the Second Shell, but Grave 9 also cut the Second Shell as well as the midden on which Grave 10 was placed. We defer discussion of this point until later.

Grave 1 was a flexed burial of an old adult male, lying on the left side, head west, face north (Fig. 12). Although the burial seemed closely associated with a hearth complex, there was no evidence that this was a burial beneath a hearth. Ash beds and many lenses of pebbles were noted, but none seemed to have been cut by the grave. The soil from the grave pit could be identified outside the burial feature for the pile was not completely used in refilling the grave. Although the pit just touched the IC.1 and IC.2 lines, it does not appear on the profile of either. The level from which it was dug remains in doubt. The midden into which the pit intruded included many small deposits of fish bones and scales. Included in the midden was a slate point with a square tang in which notches were rubbed and fragments of other slate points. A plummet and a fragment of an "adz blank" shown with the grave may have been in the midden (Fig. 12).

Burial gifts included many broken bone tools and a beaming tool made from the cannon bone of a moose; the latter was placed between the knees. The broken bone tools are unlike anything we had seen before or since. Whereas one tool lacked the pointed end, another lacked the butt end. It was therefore possible to make a "restoration" that may or may not be correct (Fig. 13). The point of this tool was broken off, or hacked off and the last two inches have been

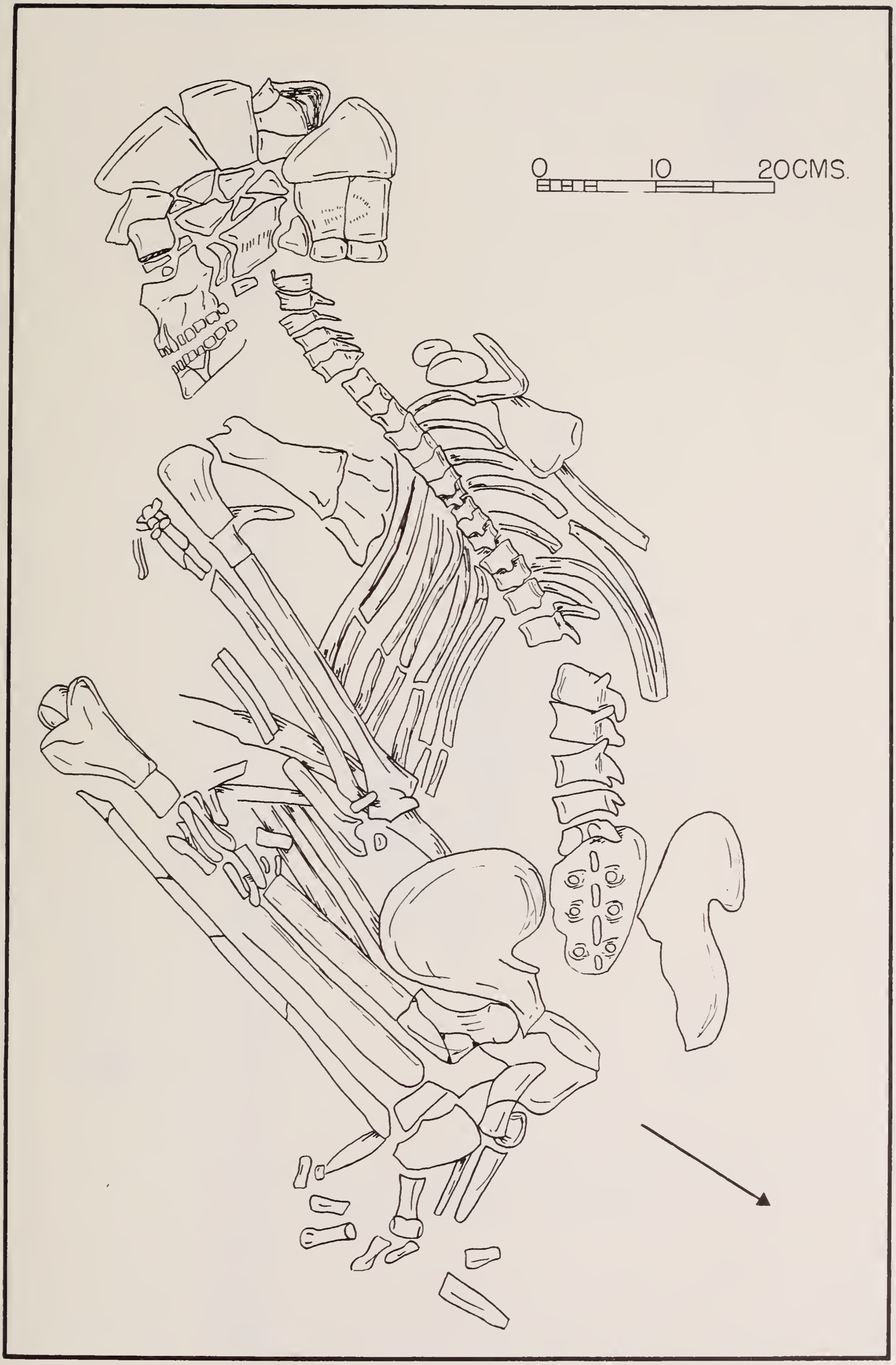


Fig. 11. Plan of Grave 10.

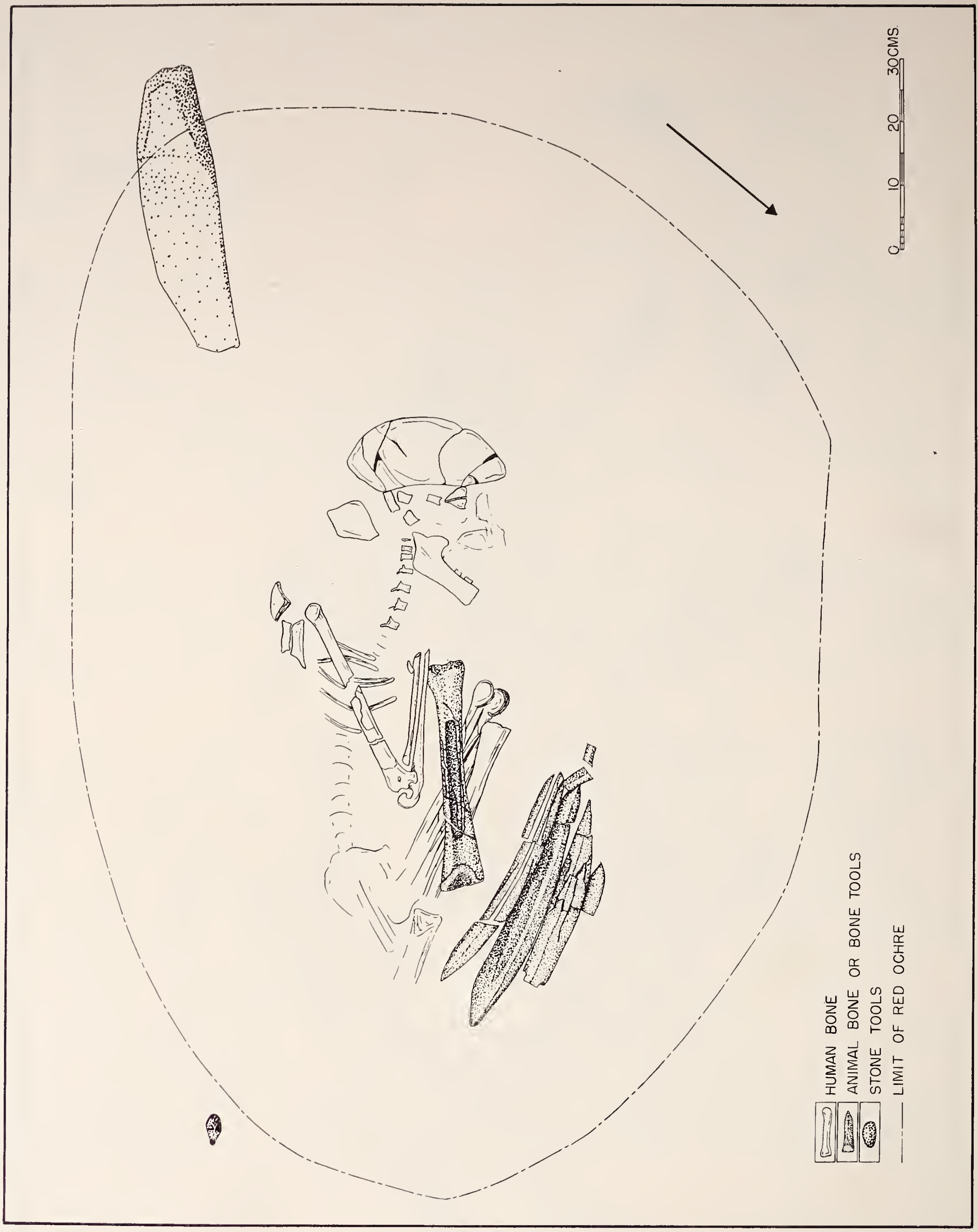


Fig. 12. Plan of Grave 1.

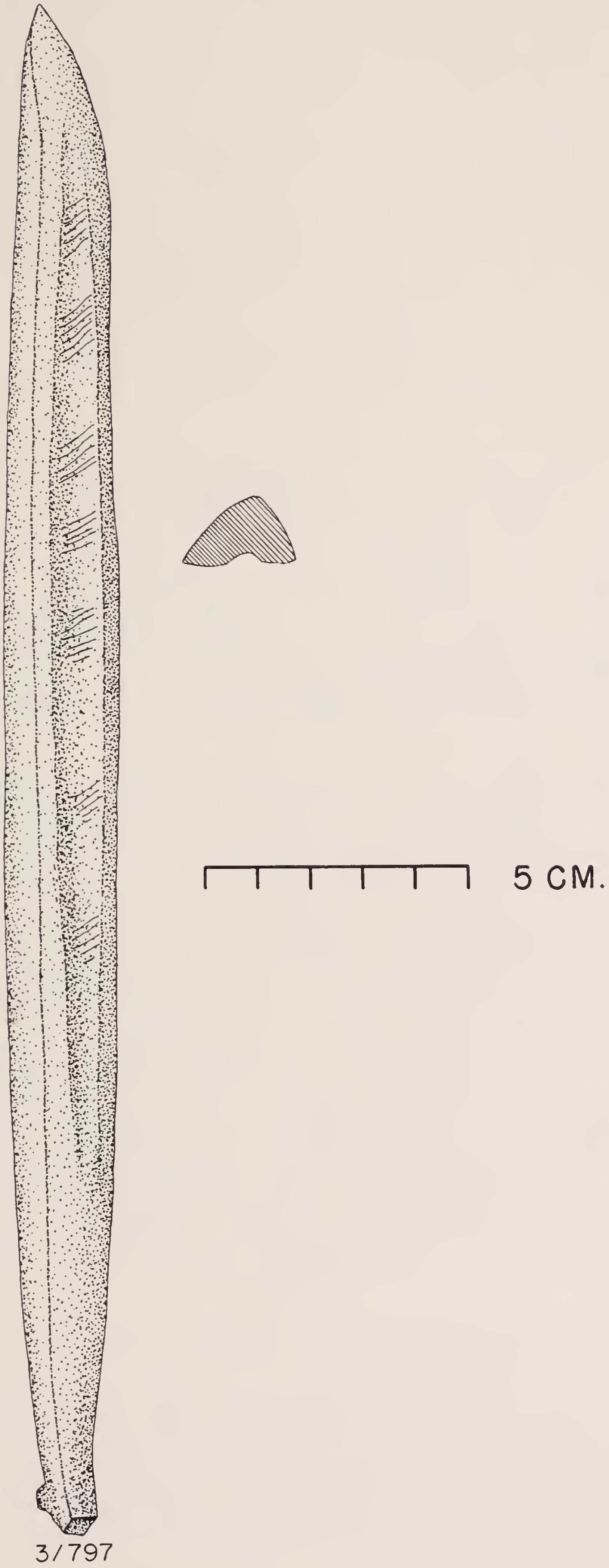


Fig. 13. Grave 1, restored "pike head" or spear-thrower.

"restored" on the basis of another such tool that lacked the complete butt end. The slight projection on the underside was more completely worked and finished than that on the one that had a point. Apparently this projection would have been more effective in holding a line pulling toward the butt, rather than a line pulling toward the point, as would be the case with a lashing to a shaft if this were intended as a thrusting or stabbing tool, or an ice pick. On the other hand had something been lashed to the end that would transmit a strain towards the butt of the instrument, the projection would have served admirably as a stop. In this connection one could think of a stop on a throwing board or stick. The little spur would have held such a piece to perfection as it would bind more tightly against the strain of the dart.

Other fragments of comparable tools had a very different treatment of the butt. In place of a projecting stop, two have a shallow depression in the keel, with a somewhat higher continuation of the keel behind the depression. These would have been equally effective against any thrust toward the rear. Other artifacts found in the grave include a trimmed beaver incisor, a small barbed point with two blunt barbs on one edge, and a fragment of a bone needle. Grave 1 was liberally sprinkled with red ochre; it covered the skeleton and the tools so that everything was deeply stained.

Grave 3 was placed on a bedrock ledge (Fig. 14), a circumstance that probably did much to disperse the skeleton. It is considered a flexed burial because a femur, tibia, and fibula of the right leg were in flexed position near, but not articulated with, an unidentified bone. Fragments of arm bone and numerous phalanges were also recognized. No components of the torso were identified. Much of the skull, in fragments, lay on the ledge fifty-five to seventy centimeters south of the knee. Other fragments were scattered in Sections IC.1/4E and 3E, probably by aboriginal disturbance, in the stratum called "shell-flecked humus." Ultimately, the greater part of the skull was discovered below some of these fragments. The skull seems to have slumped to the west, rotating its top to the east, thereby crushing the chin into the face. These parts of the skull and some cervical vertebrae were scattered over a distance of fifty centimeters. The bones and skull fragments were liberally covered with red ochre, which marked a trail of disturbance in three dimensions.

In the IC.1 profile, taken before the 1937 season began, a distinct break occurs in the shell layers between 30 and 110 centimeters east of IC.1/3E. The note "no shell here" seems to mark the shaft of Grave 3. Red ochre was found in six discrete patches. While it is possible to argue that the apparent disturbance results from the decay and slumping of the corpse, this would hardly carry skull fragments up into shell-flecked humus; it seems much more likely that aborigi-

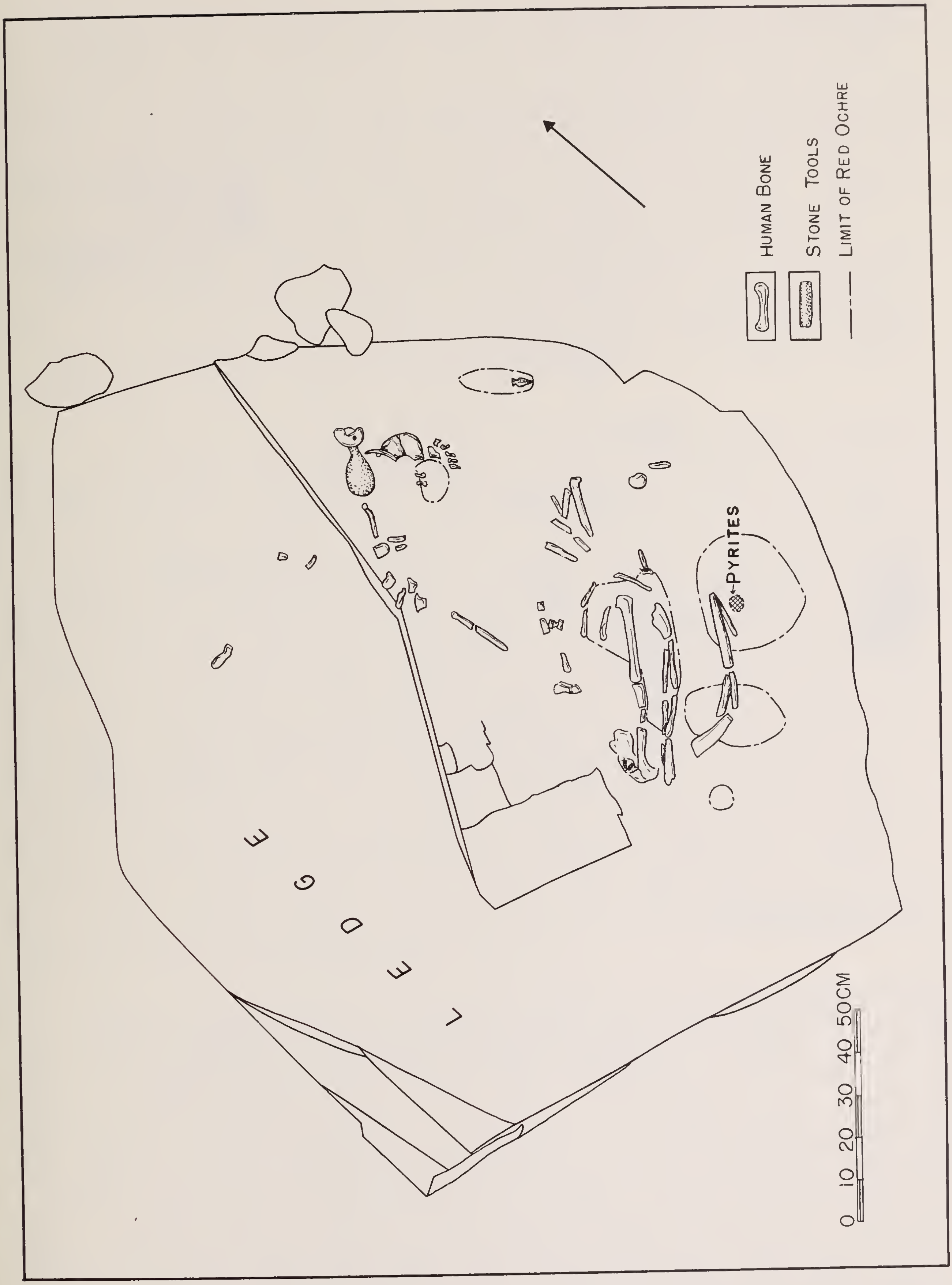


Fig. 14. Plan of Grave 3, upper levels.

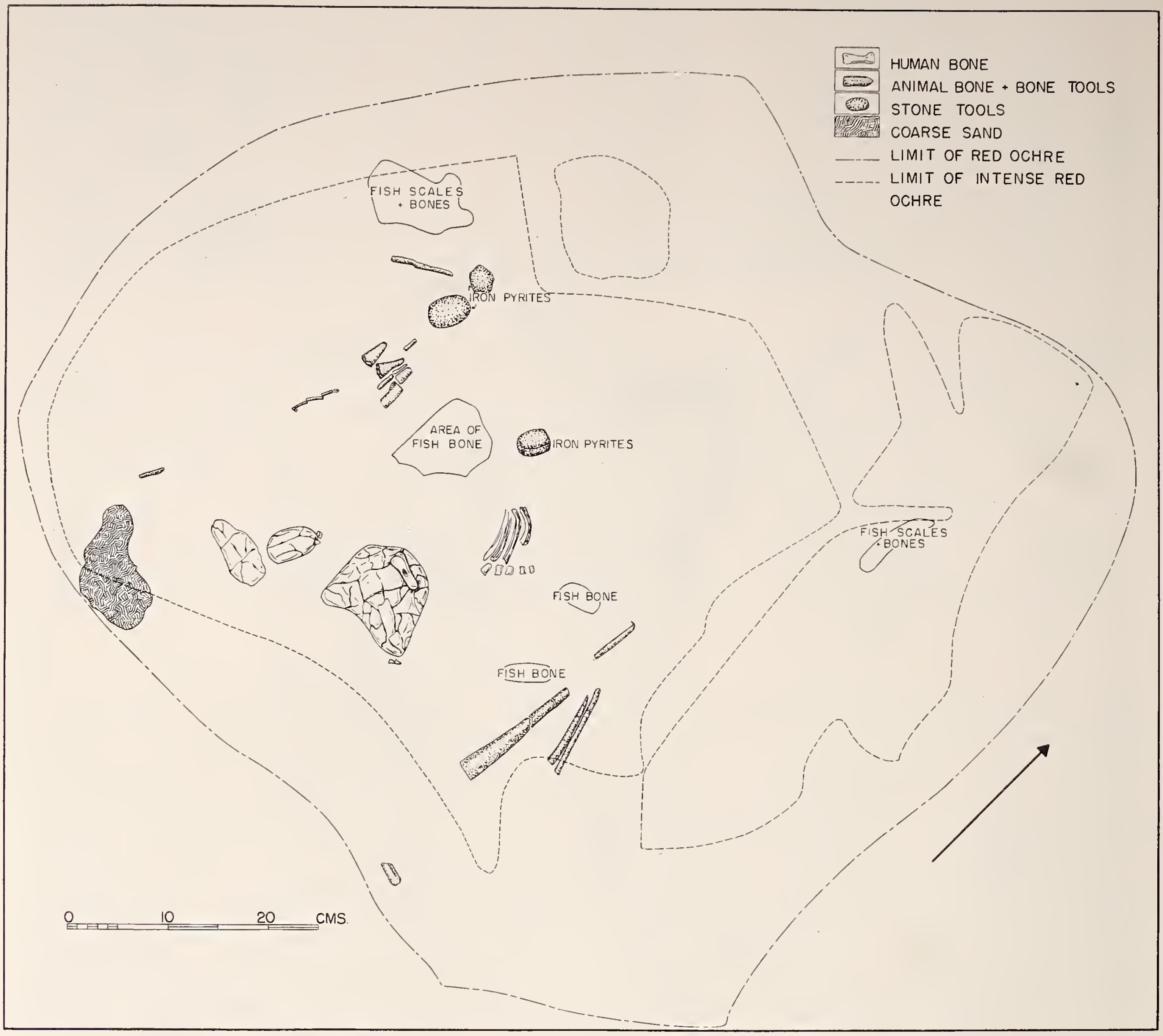


Fig. 15. Plan of Grave 3, lower levels.

nal digging was responsible. The deceased had been sixteen to eighteen years old, with lower third molars formed, but not erupted, and according to Dr. Hooton had probably been female. Few artifacts were associated with the burial. A plummet was found near the right glenoid fossa and next to the parietal and temporal; a side-notched arrowpoint lay in red ochre north of the skull and west of fragments of humerus; and iron pyrites was in another patch of ochre. A hammerstone and plummet near the bottom of the Second Shell seem unconnected with the grave. Parts of the skeleton were on the Second Shell, a deposit level with the upper rim of the ledge. It is described as "certainly a level of occupation; it contains many pieces of foodbone, hammerstone, etc. ...dogfish spines particularly noticeable." Fragments of turtle shell were common throughout.

In the next section to the northeast (IC.2/4E) a fragment of a bayonet slate point was found in pebbles which included potsherds below the upper shell. The stratum below was black humus and pebbles with occasional flecks of shell. From it came a broad slate point with a median concavity and a square stem with thong-rubbed side notches on either edge, fragments of swordfish sword, and many fish bones. It seems more than possible that the bayonet slate point came from the lower level and was brought up when the pit for Grave 3 was scooped out, particularly in view of the disturbance of the shell layer found on the southern face of that section. Either in scooping out Grave 3 or in some other activity not apparent to us, fragments of bone and patches of red ochre were scattered over five meters in a general northwest-southeast direction. The stratigraphic position of Grave 3 is not clear. It must have been made after the local First Shell was laid down because that deposit is clearly broken in the IC.1 wall. Plow disturbance has destroyed evidence that might enable one to associate the grave with any living floor or to state whether the people who dug it knew how to make pottery or were ignorant of it.

Grave 11 contained a tightly-flexed skeleton identified as a middle-aged adult, probably male, lying on the left side with head west but bent forward on the chest so the face was east. A fine gouge with keen, well-rubbed bit, lay in the crook of the right elbow. A dogfish spine was at the top of the head, a turtle shell at the face. No other gifts were with the burial. Red ochre was scattered around the skull and in a patch about 10 cm in diameter behind it, so sharply defined as to suggest the ochre had been placed in the grave in a pouch. No evidence of a grave shaft could be found. Shells came in direct contact with the leg bones but the skull protruded from the shell and lay on humus. Numbers of very fine bones with articular facets at one end lay over and around the skull and were mixed in the shells surrounding the skeleton. Fish scales were mixed with the clam shells surrounding the grave.

The body had slumped so that the right humerus lay below and behind the vertebral column and several vertebrae lay on top of it. It was so close to the surface that the plow had badly damaged the bones, shaving off the proximal end of the right femur and the distal part of the left arm below the olecranon process. Both mandibles were broken.

The skeleton had been placed on pebbles and covered with a layer of broken shells. The bottom of the grave was only twenty-seven centimeters below the top of the heap at I.3/2W. It is difficult to believe that this can be any but one of the latest burials.

Grave 6 (Fig. 15). The IB line crossed Grave 6, and two different people worked on it. As a result, the record is somewhat uneven. In the First Shell layer of the section in which Grave 6 was found, a fragment of a bayonet slate point with a hexagonal cross section was found at a depth of seven centimeters in shell near a burned area. Two potsherds with a flat lip, one bearing interior and exterior dentate stamping, the other without stamping, but both with circular punctations, were found nearby with two stamped body sherds at ten centimeters below IC.1/2E. These seemed to reinforce the stand taken by Johnson (1937) that polished slate artifacts could be associated with pottery. A second fragment of a slate implement was found at a depth of thirty-eight centimeters in black humus above red ochre.

The means by which pottery and slate became associated appears to have been through the digging of the pit for Grave 6, just as the digging of Grave 3 brought other sherds and slate together. The notes indicate that the First Shell layer formed an unbroken layer sixteen centimeters thick over the grave. The shaft probably began in the layer called "black humus," and extended through the Second Shell layer and into black humus mottled with layers of brown pebbles. The uneven top of the red ochre was forty-three to fifty centimeters below the surface, while the floor of the grave was approximately fifty centimeters below the surface. It had been roughly leveled above a ledge. Charcoal was found in the floor of the grave, but it did not appear that fire had been used in preparing the grave. Fish scales were prominent in and around the grave, and very small fish vertebrae were found near the teeth of the skull. A curl of birch bark lay just below the red ochre. The fill of the grave was scattered broken shells and humus and it could be easily distinguished. (Fig. 16)

The decayed bone of the skeleton was in such poor condition that there was some doubt whether a body had ever been placed in the grave. However, a badly decayed skull was identified, as were the bony structures of the inner ears, some ribs, some vertebrae and an incisor tooth. These

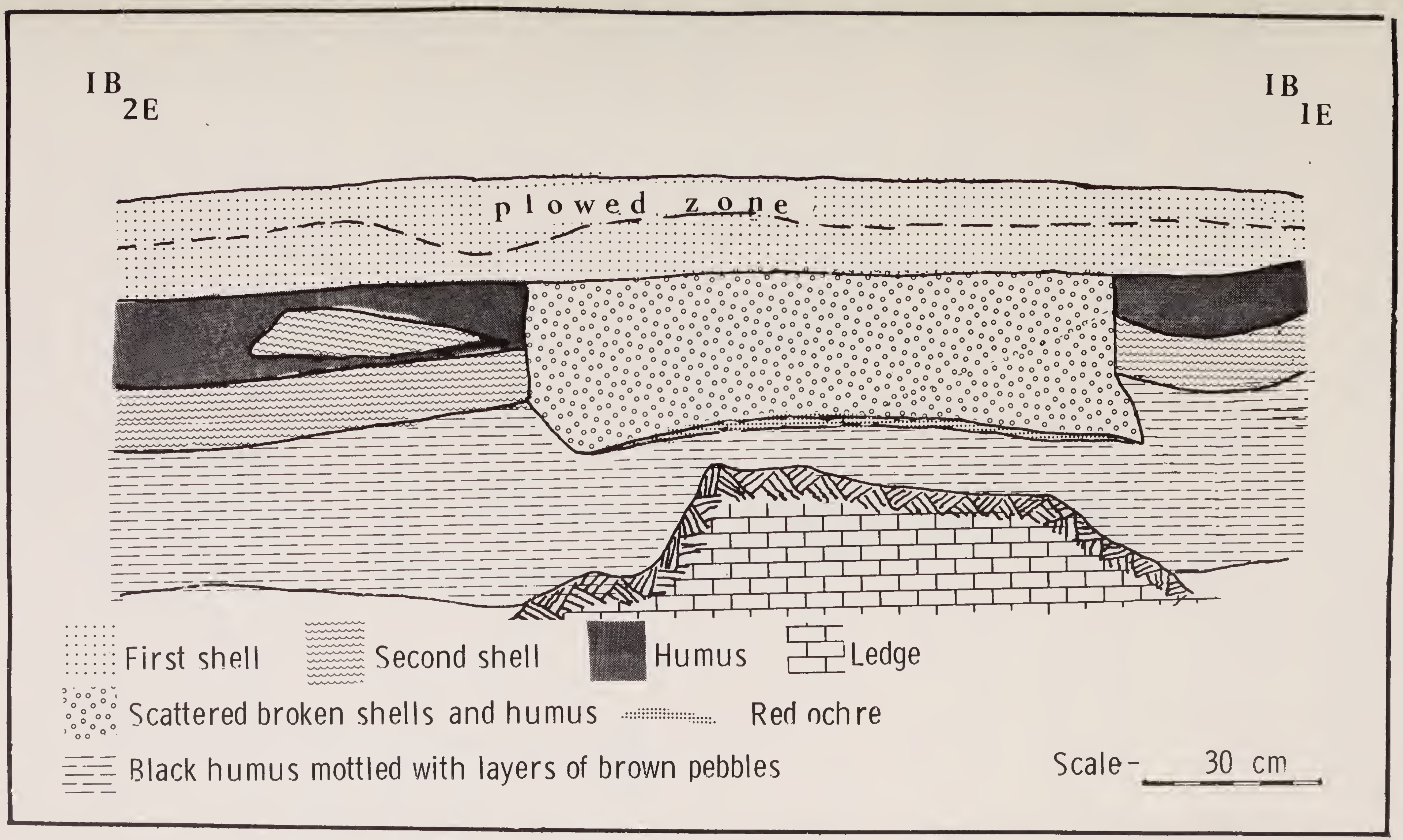

IB 2E
IB 1E
plowed zone
First shell
Second shell
Humus
Ledge
Scattered broken shells and humus
Red ochre
Black humus mottled with layers of brown pebbles
Scale - 30 cm

Fig. 16. Section through Grave 6; overturned Second Shell from shaft is in humus layer between First and Second Shell layers.

were thought to be parts of the remains of an extended infant or child burial with head to the west. No remains could be retrieved for study.

The outline of the southern half of the grave was more clearly defined. Shells and humus from the grave shaft formed spoil heaps to the southeast of the grave; the shells were recognizable across eight-tenths of the width of Section IA.3/2E.

The humus pile did not extend as far—either less humus was taken out or some was put back to fill the grave. The shell pile laps over the edge of Grave 5, and seems to make it clear that Grave 6 was later than Grave 5.

The only artifacts in the grave were a bone awl, a split metapodial type awl, a fragment of a beaver-tooth chisel; a fragment of a bone needle, the tip of a barbed bone arrowpoint, and three pieces of iron pyrites.

Grave 2 (Fig. 17) contained the remains of a baby, with head to west. It was discovered late one afternoon at the close of the 1936 season when a trowel struck a tool in the south wall of Section IC.1/8E as we were attempting to clean up the face and close the dig. It was at first assumed to be a cache of bone tools, but the cache proved to be the burial of a young child placed on the surface on which the midden accumulated—a layer of compacted loam resting on a till surface that was sufficiently uneven to cause knobs of till to project through the loam. Black humus and pebbles immediately overlay the basal layer. The grave lay in the pebbles and loam in which there were scraps of refuse bone. It seems probable that this layer once marked a living surface. The layer of shells above the humus and pebbles had been disturbed. The shells were broken and mixed with humus—the proportion of humus increasing with depth. This was undoubtedly the grave shaft, but notes do not reflect that it was ever outlined. A large and small plummet, a piece of incised bone, and a fragment of a celt in this supposed fill were not considered as grave goods.

The exposed surface of the grave revealed seven long bone implements, lying roughly parallel to one another, and oriented in general between east-west and northeast-southwest. These covered bones of an infant of one to two years of age. The bones were so poorly preserved that they could not be removed for study. The body had probably been extended on the back, head to the southwest. The head had fallen forward on the chest, crushing both jawbones before the calvarium collapsed to the west. Red ochre was spread in the grave both before and after the body was placed in it.

A platform of till, somewhat higher on the edges, and

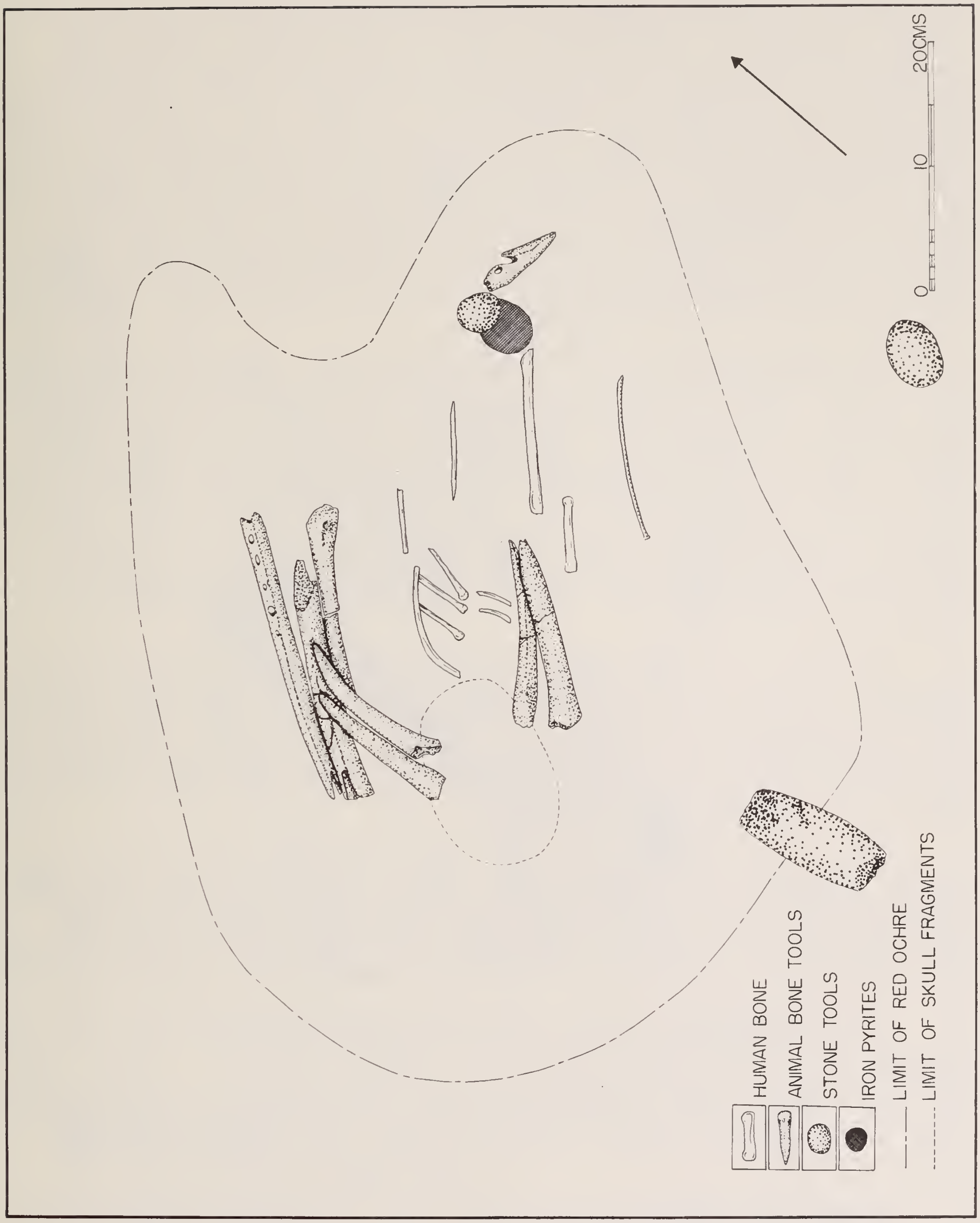


Fig. 17. Plan of Grave 2.

thickest along the southern edge, was laid over the basal humus to make a trough-like bed for the body. Below the body the till was four centimeters; at the south edge its thickness was eleven centimeters. Stones in the rim of the platform, including the adz shown in Fig. 17, probably were brought in at that time. Signs of fire below the till platform may be from fires that burned long before the grave was prepared. However, a fire was lighted over the southern part of the platform and burned before the ochre was spread over the entire grave area. The body was then laid in the grave, and burial gifts were laid on it before the final coat of ochre was scattered over all.

Two metapodial awls, made from bones split transversely and their distal ends shaved in the same plane to form broad flat tips, lay over the right arm with their proximal ends on the thin remnants of the frontal and parietal bones and their tips on the left arm. Two sharply pointed bone implements with a pronounced curve lay over the left arm. The bone from which they had been made could not be identified. About fifteen millimeters from the proximal ends of each were encircling shallow marks that could be vestiges of a wrapping or handle.

Parallel to the left arm were two foreshafts for male harpoons, made of swordfish sword. One was made of a sword without cells, the other from a sword with cells that had been exposed when the sword was split. Diagonal lines about two millimeters wide had been cut through the skin of the latter at irregular intervals.

Below the foreshafts lay what proved to be a human humerus, probably the left, from which the head (the proximal end) had been cut and the distal articular processes had been trimmed. A transverse hole had been drilled at the upper end of this implement—probably made from a left humerus.

A single-barbed male harpoon with a gouged line hole lay near the northeast limit of the grave close by a small hammerstone and a decomposed piece of iron pyrite. From among the leg bones came a sliver of bone cut from a larger piece, possibly a needle in the first stage, with burrs of bone still attached.

Pieces of curled birch bark were found in red ochre at the east end of the grave and at its northwest side.

Grave 7 (Fig. 18) was an infant burial, but the bones were in such a poor state of preservation that it cannot be said without reservations that the body was extended on the back with head north and face west; it could also have been flexed and on the right side. The grave was below the First Shell, and was probably dug from the level of the shell-

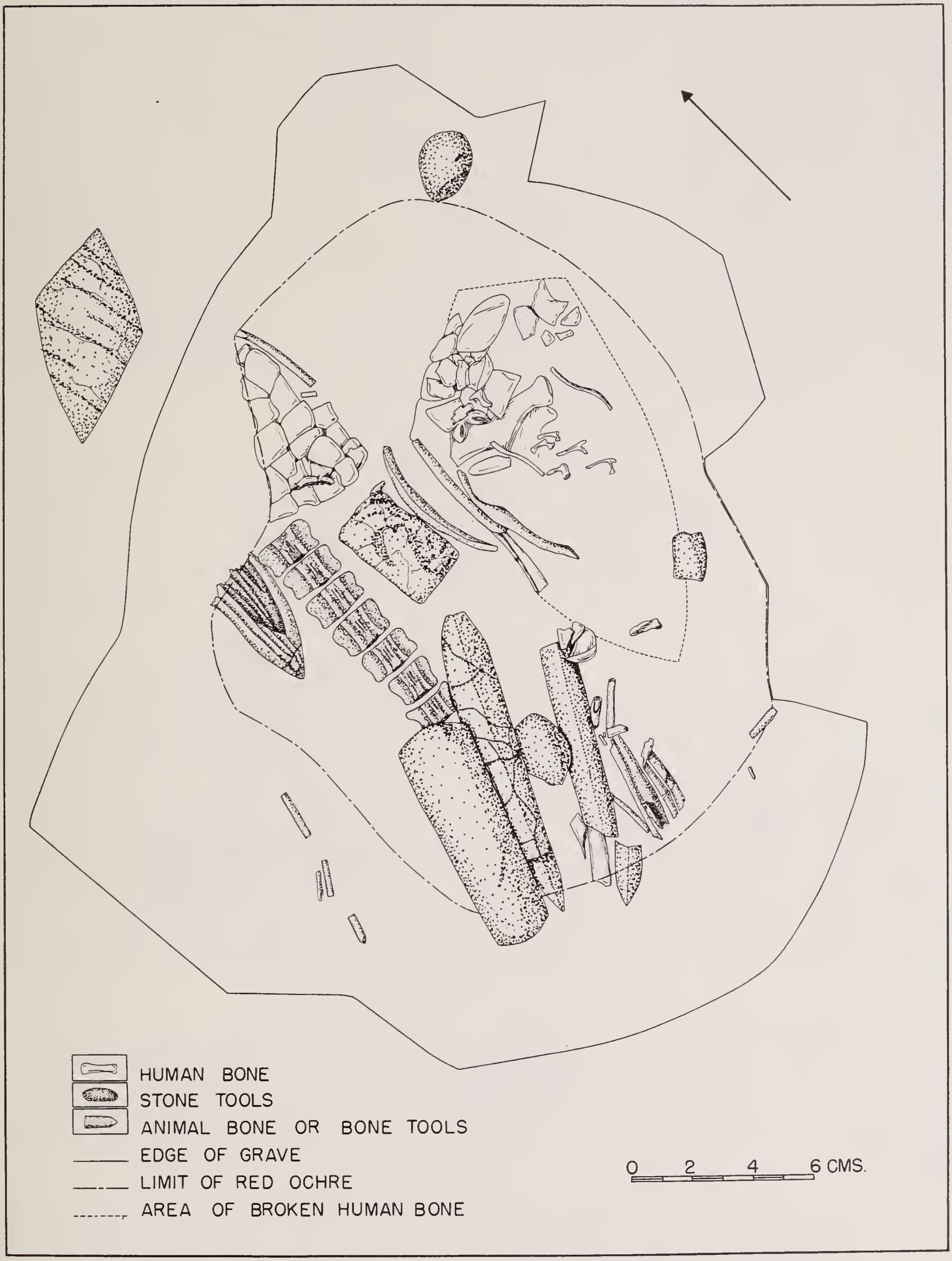


Fig. 18. Plan of Grave 7.

flecked humus where there was evidence of fire. It is possible that the grave was dug from the floor of a dwelling, as the grave shaft was filled with material like that through which the grave was dug. The grave limits are marked by the distribution of ochre. There is no evidence that the grave floor was prepared in any way except to sprinkle red ochre. Fish vertebrae and scales, and sea urchin spines were plentifully represented in the grave. Very small fish vertebrae were scattered in the thick deposit of red ochre, especially around the skull. Caudal vertebrae of what we believe to be a young harbor porpoise lay beside the skeleton. The upper and lower bills of a pileated woodpecker, severed from the skull, lay beside the porpoise vertebrae. Lumps of charcoal were found below the red ochre and mixed in with it, but it cannot be determined whether this was part of the midden, or perhaps remains of a ceremonial fire.

Burial gifts included two slate spears, trianguloid in cross section and with tapered tang. Each had been about twenty centimeters long. Both had been broken and one was badly corroded and stained by the disintegration of a lump of iron pyrites. Beside this lay an adz about fifteen centimeters long. A hammerstone at the north end of the grave was at the farthest possible distance from the iron pyrites.

Grave 8 (Fig. 19) cannot be classified certainly as a primary burial because storm waves washed into the grave and drove beach gravel under the skeleton. Because the lower limbs were lacking, we assume that the returning water washed them out. Parts of the skeleton recovered include the skull, arm bones, carpals, and scapula. Very few ribs were found. The humerus and scapula were in normal articular relationship; the distal ends of the radii were in normal articular relationship to the carpals and metacarpals, while the proximal ends of both radii and the ulnae were so positioned as to suggest that the arms had been flexed and the hands had been at the face. The skull was at the north and probably lay on its right side with the face west.

Among the material sent to Professor Hooton was the skull from Burial 8, which he identified as the calvarium of a middle-aged adult, probably male. Fragments of a mandible with heavily worn teeth were judged by Professor Hooton to be from an old adult female! This raises the possibility that Grave 8 contained more than one burial.

Red ochre was plentiful and brilliant over the arm bones; that around the skull seemed less brilliant, as if mixed with soil. Charcoal was plentiful in the grave and below it, but it cannot be demonstrated that it represents part of a burial rite.

Fish bones, fish scales, and fish vertebrae were plenti-

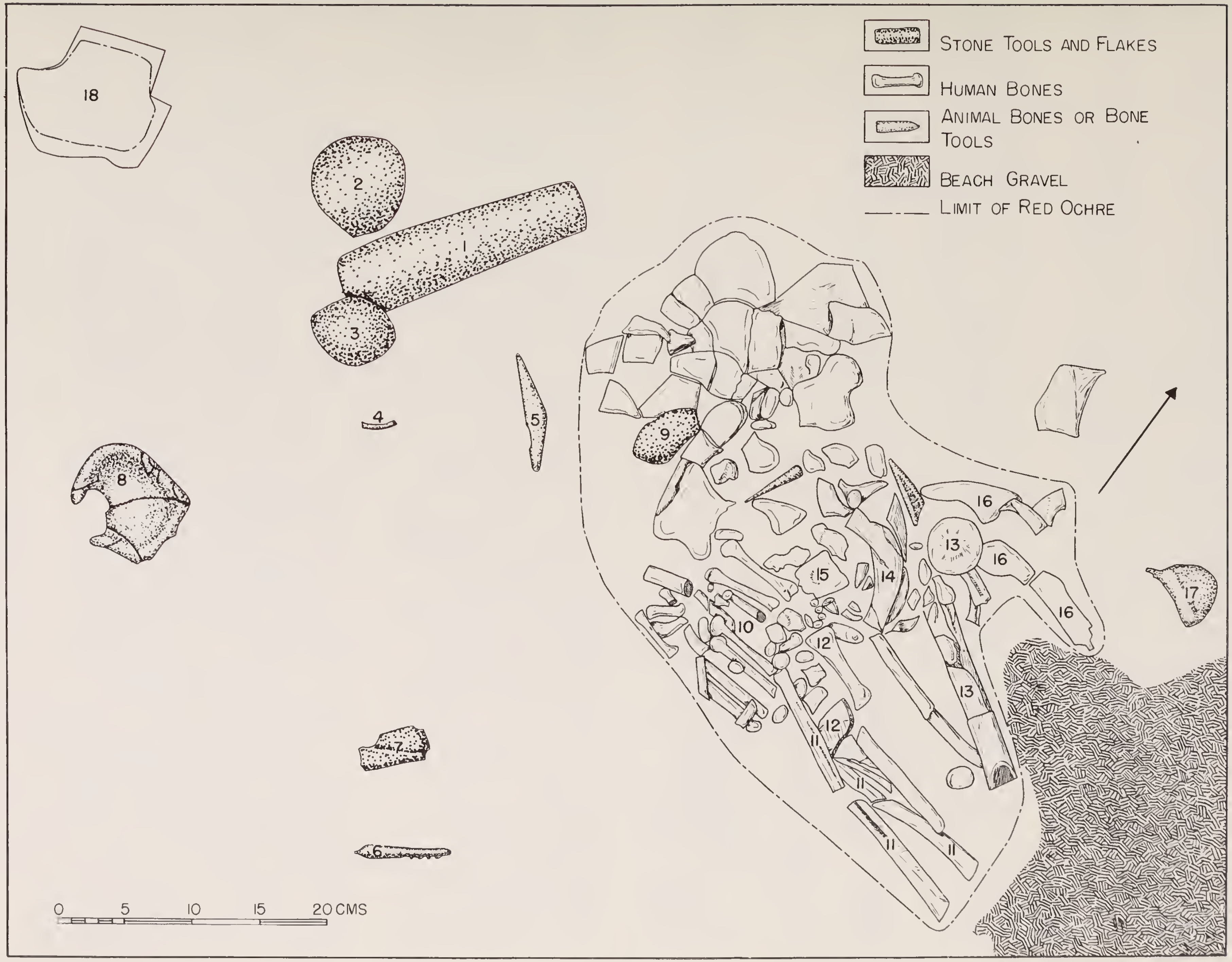


Fig. 19. Plan of Grave 8.

ful in and around the grave. The item designated "18" in Fig. 10 is the burial of a fish in red ochre. "8" is a seal skull.

The grave lay below a fragment of "stone floor" such as is discussed on page 22 above. Obviously, the grave is younger than the floor.

There were no artifacts in direct association with the burial. A gouge and two hammerstones (1, 2, 3, on Fig. 10) lay northwest of this skull. A worked beaver incisor (4), a cut bone point (5), a fishbone barbed point (6), and two felsite flakes (7, 9) complete the roster of numbers on that figure. Only one felsite flake was in the ochre-covered area. All the other items could have been in the midden.

Secondary Burials

These are by far the most spectacular features of the Nevin Shellheap. Included in this category are Grave 12, a single burial, and Graves 4, 5, and 9, all multiple burials (Fig. 20).

Grave 12 was in the very bottom part of the heap at its southern limit. There was no hint of the grave in the shell-flecked humus at the surface that must represent plow disturbance. The shaft was clearly outlined in the Second Shell, which was mixed with humus. Black humus and pebbles formed the lowest layer, beneath the shell and humus of the Second Shell. The top of the grave was thirty-one centimeters below the surface. Ochre was present but not plentiful.

The body was that of a child of five to nine years. An incompletely erupted six-year molar was in the remaining fragment of the right maxilla. The skull was placed at the north end of the bundle of bones that lay on a north-south axis. It was felt that this body was dismembered because the distal end of the left femur was engaged with the proximal end of the tibia, the epiphysis having parted. The humeri were disarticulated, their heads were near the skull. The right tibia was reversed, with calcaneum attached. No marks of butchering cuts were noted on the bones. The vertebral column was probably laid in the ground articulated, possibly held together by ligaments. The skull appeared to have been broken by a blow.

A long bone awl in poor condition lay on the east side of the burial. A chipped felsite spearhead lay below the vertebrae with its point towards the skull. There were no other burial gifts.

Grave 4 (Fig. 20) comprised three bundle burials, designated from west to east, A, B, and C. It had been disturbed by storm waves that drove shells and shingle into the skull of Burial A, the best preserved of the three burials. All the bones were in disarray. Burial B was represented by only part of the skeleton, and Burial C was represented only by teeth, fragments of the inner ears, and scarcely more than the outline of the calvarium (Fig. 20).

Although red ochre was scattered over the entire grave, it was concentrated near each burial, as if a special pile of ochre, perhaps a pouchful, had been placed in each. A smaller quantity of ochre was with Burial A than with either Burial B or Burial C.

Burial A represented the remains of a middle-aged male. The bones had been gathered in a bundle with the long bones on either side, the whole presumedly oriented on a north-south axis. The vertebral column was probably emplaced in articulation, perhaps held together by ligaments, for the components preserved a near normal relationship. It lay between the long bones and below the pile of odd fragments and ribs set crossways, with the internal surface towards the skull. The skull was on top of, or at the northern end of the bundle, facing south. It was in fragments, among which were mixed shells, ochre, gravel, and humus. If the long bones had been intended to be paired according to side, they had been disarranged. The eastern group of long bones contained the right ulna, the left femur and tibia, the left radius, and the right scapula; the western group contained right femur, right humerus, left humerus, and left radius. One ulna was missing. Although they may have been placed roughly parallel, some were at right angles to others. The bundle must have been gathered bones of a body that had been exposed, perhaps on a scaffold.

Burial B was even less complete. The calva was that of a young adult male. The skull may have lain on its left side. The almost complete mandible was preserved, as were the right and left maxilla and the palate, although they were not attached to the brain case. The face was missing. Damage by waves was particularly severe. The vertebral column was bowed so that dorsal and cervical vertebrae were out of position, and the axis rested against a lumbar vertebra. The femora were reversed; the head of one was beside the skull, the distal end of the other was below the skull to the north.

An inner ear and some unerupted molars lay between Burial B and Burial C.

It is difficult to identify any artifacts as burial gifts. Fragments of a long bone tool lay east of Burial B and may have been associated with it; two beach pebbles north of Burial B could have been hammerstones or products

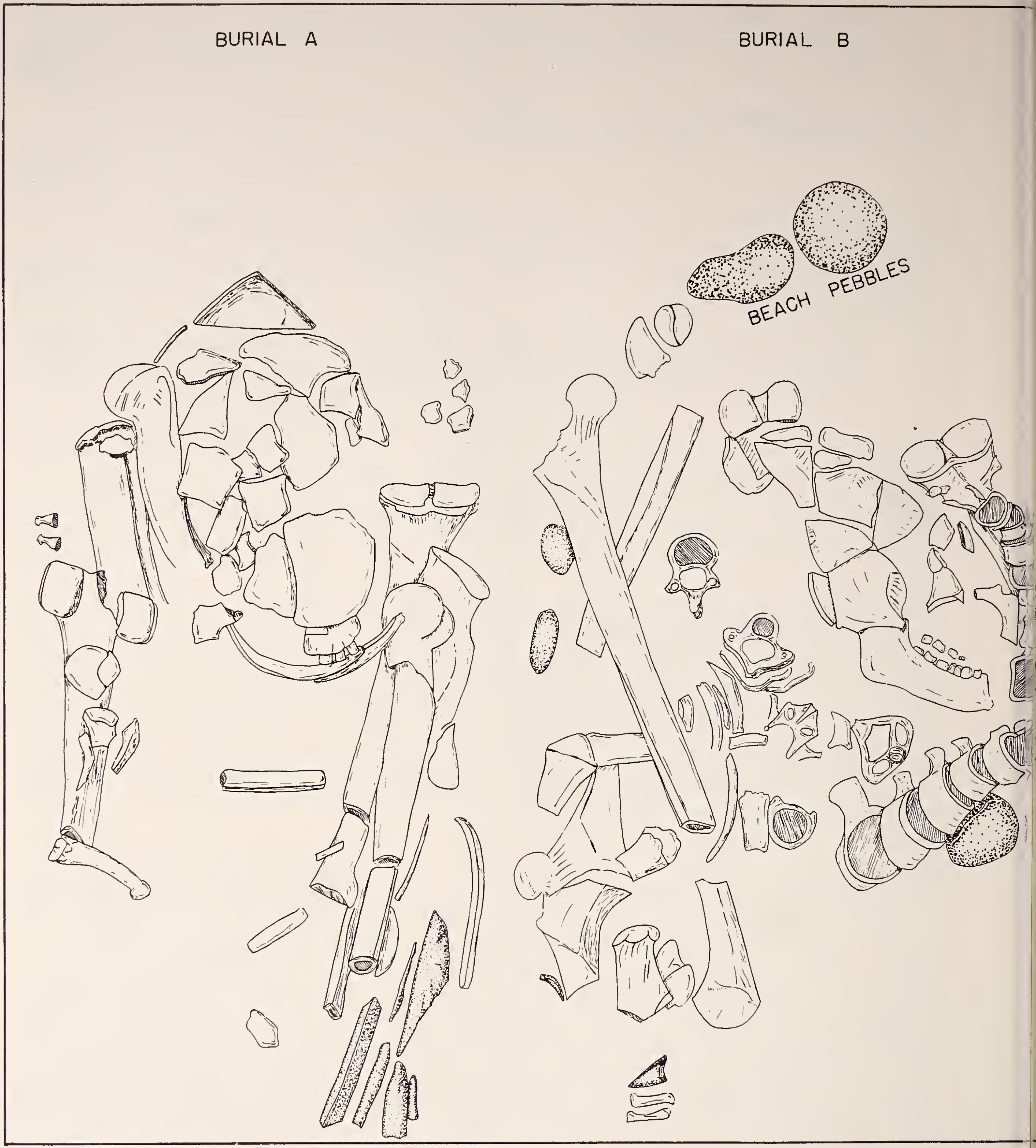
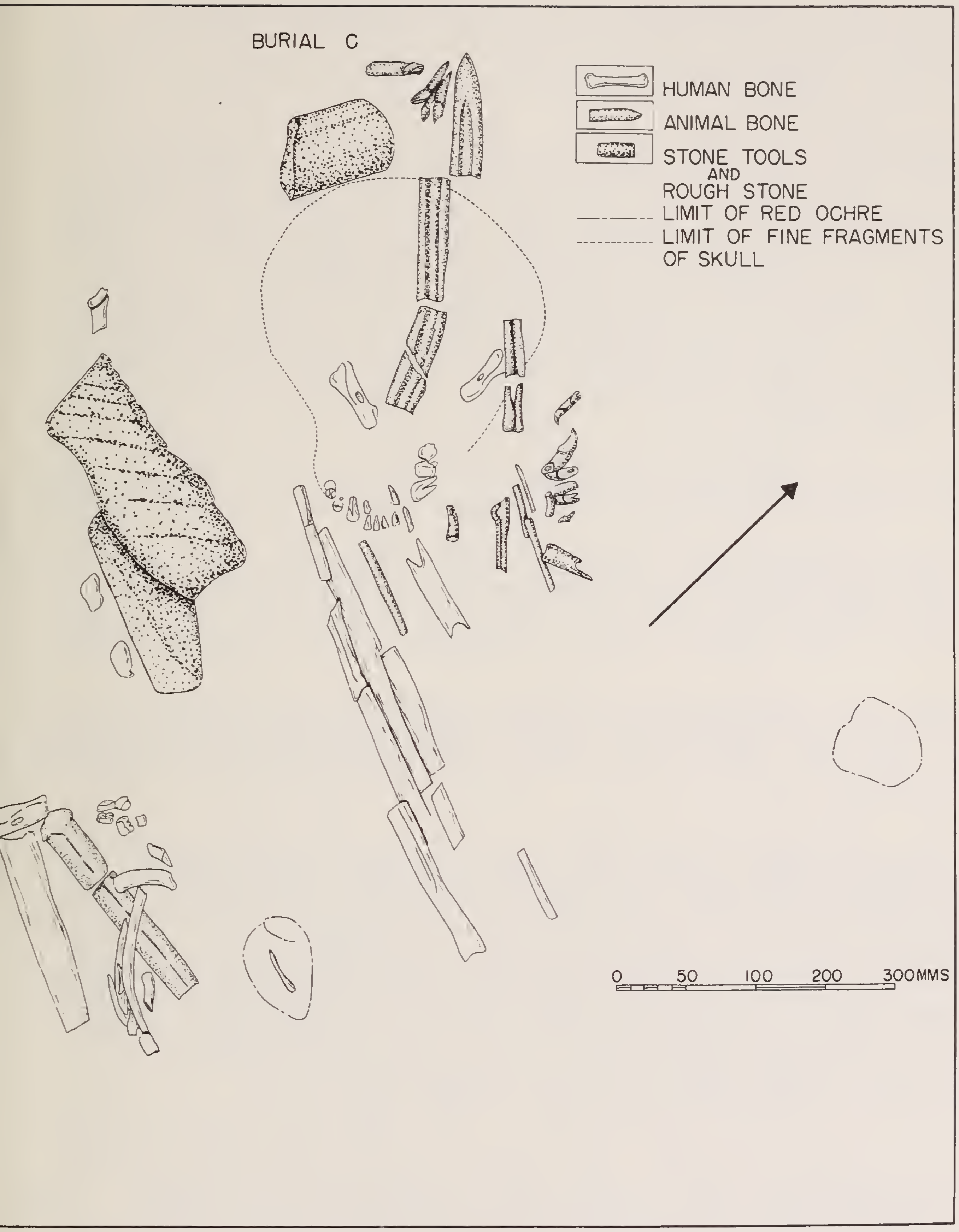


Fig. 20. Plan of Grave 4.


BURIAL C
HUMAN BONE
ANIMAL BONE
STONE TOOLS AND ROUGH STONE
LIMIT OF RED OCHRE
LIMIT OF FINE FRAGMENTS OF SKULL
0
50
100
200
300MMS

of beach wash. In red ochre below the skeletal remains were a beaver incisor chisel, beside the acetabulum, a fragment of a lance, or "pike head," below the western long bones, and a hammerstone below the lumbar vertebrae.

Burial C, closest to the edge of the heap, was the least preserved and the only burial to have directly associated burial gifts. It also had the most brilliant ochre. A bone "pike head" lay across the remains of the skull, broken into four pieces, and lacking its proximal end. An adz-gouge lay just west of the long bones. A fragment of cut swordfish sword lay below and slightly west of the skull; a fragment of an adz was contiguous with the northern edge of the skull; and several canine teeth, possibly of a fox, perforated at the tip of the root, lay not far east of the remains of the skull.

The poor condition of this and the other two burials can probably be attributed to storm waves that undercut the bank.

Grave 5 (Fig. 21). This truly spectacular grave was liberally sprinkled with red ochre and contained remains of seven, or possibly eight individuals, as well as the right antler of a bull moose, still attached to part of the skull.

Wave disturbance had already taken place in the southeastern part of the grave. Below the ochre were storm-driven shells, pebbles, and a log, the balance of which was found in Section IB/4E.

The grave was discovered at its western limit, not far from stake IA.3/2E, where the moose antler and fragments of a human skull and bone tools were exposed. Fish bones and scales were found in a layer around the edge of the grave and extending under it. The fact that some fish scales are described as "large" may indicate that more than one species of fish was taken. Fish bones and scales are mentioned frequently in all surrounding sections. It is clear that fin fish formed a very important part of the diet during the period represented by the lower levels of the site.

The extreme eastern limit of the grave pit was clearly marked in Section IB/4E. Throughout more than three square meters so exposed were flecks and blotches of red ochre, fragments of bone tools, and fragments of human bone. When it was cleared there was evidence of two episodes of interment; there were piles of long bone implements, but very few stone tools. Fragments of a swordfish sword lance, or pike head, lay just beyond the ochre to the south, a foreshaft of swordfish sword (Fig. 22, left), together with a single-barbed male harpoon, was beside the moose skull and north of the antler.

Fragments of the skull of Burial I lay south of the tip of the antler. Teeth and bones of several small animals lay on the southwest part of the skull and over the arm bones. A dog mandible lay over the humerus and in close contact with the small animal bones, including the mandible of a large rodent. The skeleton was extended with arms flexed and hand to the mouth. This was the skeleton of a child. The femora rested on infant Burial II, while the tibiae were east of the infant's rib cage. The latter appears to have been a loosely flexed burial, on the left side, with poorly preserved leg bones at the limit of the red ochre. Some large bone implements lay on the skull of I and extended over remnants of the arm bones and the thoracic cage. Between them and the root of the bez tine of the antler was a pile of similar implements, broken and covered with ochre. These eventually proved to be sharply pointed daggers made from the cannon bones of moose. On being hardened and cleaned, many exhibited extremely delicate incised decorations on the blade (Fig. 22, right, and Figs 23, and 24). The proximal ends were smooth, and gave the impression of having been covered with a grip. Three fragments representing the central part of one of these daggers lay twenty centimeters east, beyond a small plummet. This may be a post-interment disturbance.

Farther east a tongue of ochre-free soil ran from the south towards the antler. Below this ochre-free soil was a lower layer of ochre, discontinuous and hard to follow. In it were scattered human bones, called Burials III and IV.

Burial III was very much disturbed and broken. It probably represented the remains of a youth. Broken bones within the "boundary of Burials III and IV" were covered with red ochre; those outside it were not. The bones of the skeleton were much jumbled and lay on soil showing spots of ochre, nearly connecting, that overlay finely broken shells, oyster shells, and humus. The thickness of this deposit was four to six centimeters and it, in turn, lay on a mass of red ochre in which more human bones occurred, including part of a pelvis, lumbar vertebrae, cervical vertebrae, foot and hand bones, and some ribs. These were judged to be part of Burial III.

Burial IV was not represented by any recognizable grouping of bones, but was a number assigned to bones that seemed to duplicate Burial III: the distal end of the femur bore no shaft. It was, however, observed that the femora of III bore no distal ends.

It now seems likely that what were originally thought to be two skeletons, were, in reality, only one. Among the skeletal fragments sent to Dr. E. A. Hooton was a box marked "Grave 5, Burial IV." In it, Dr. Hooton identified the skull

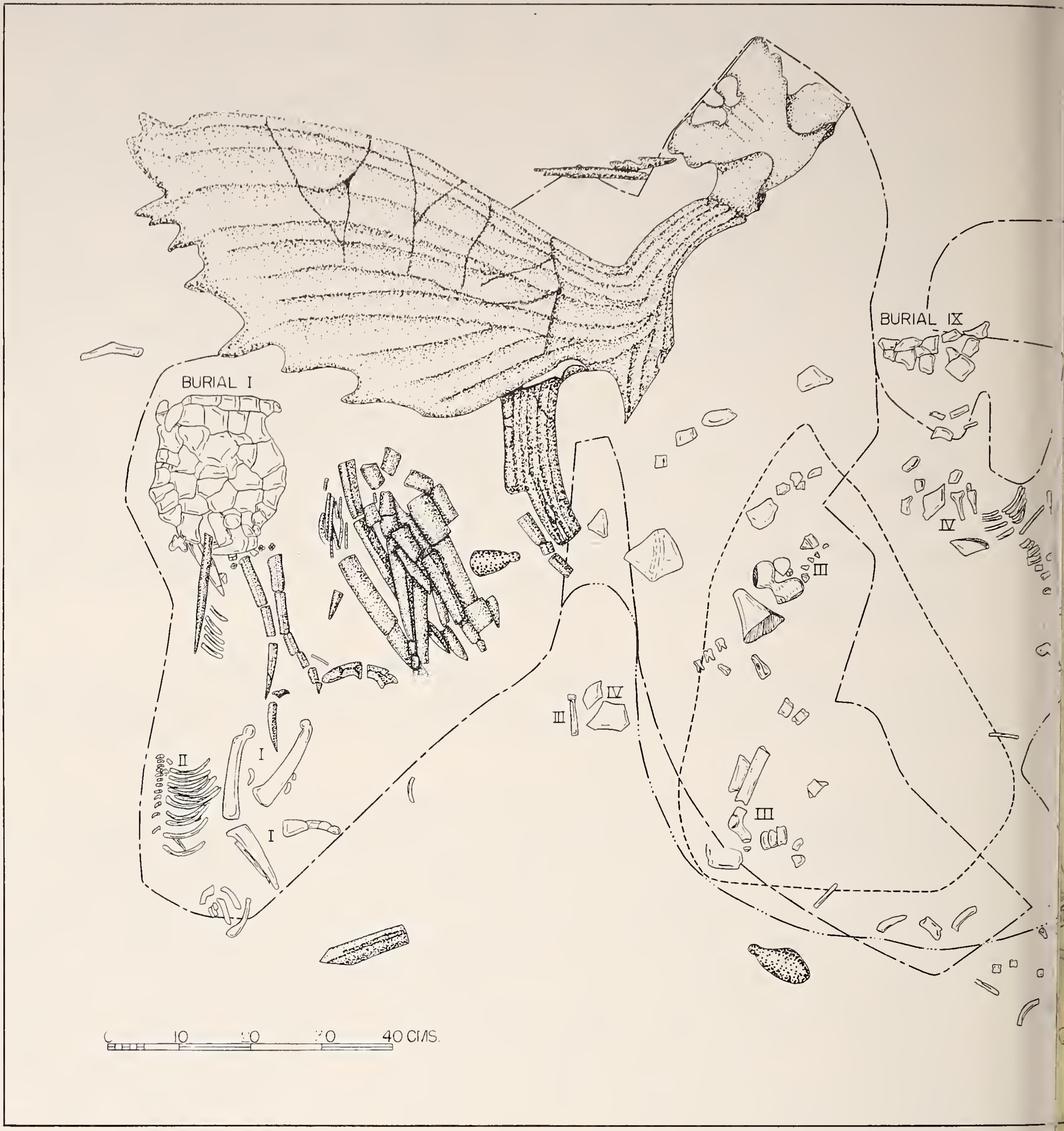
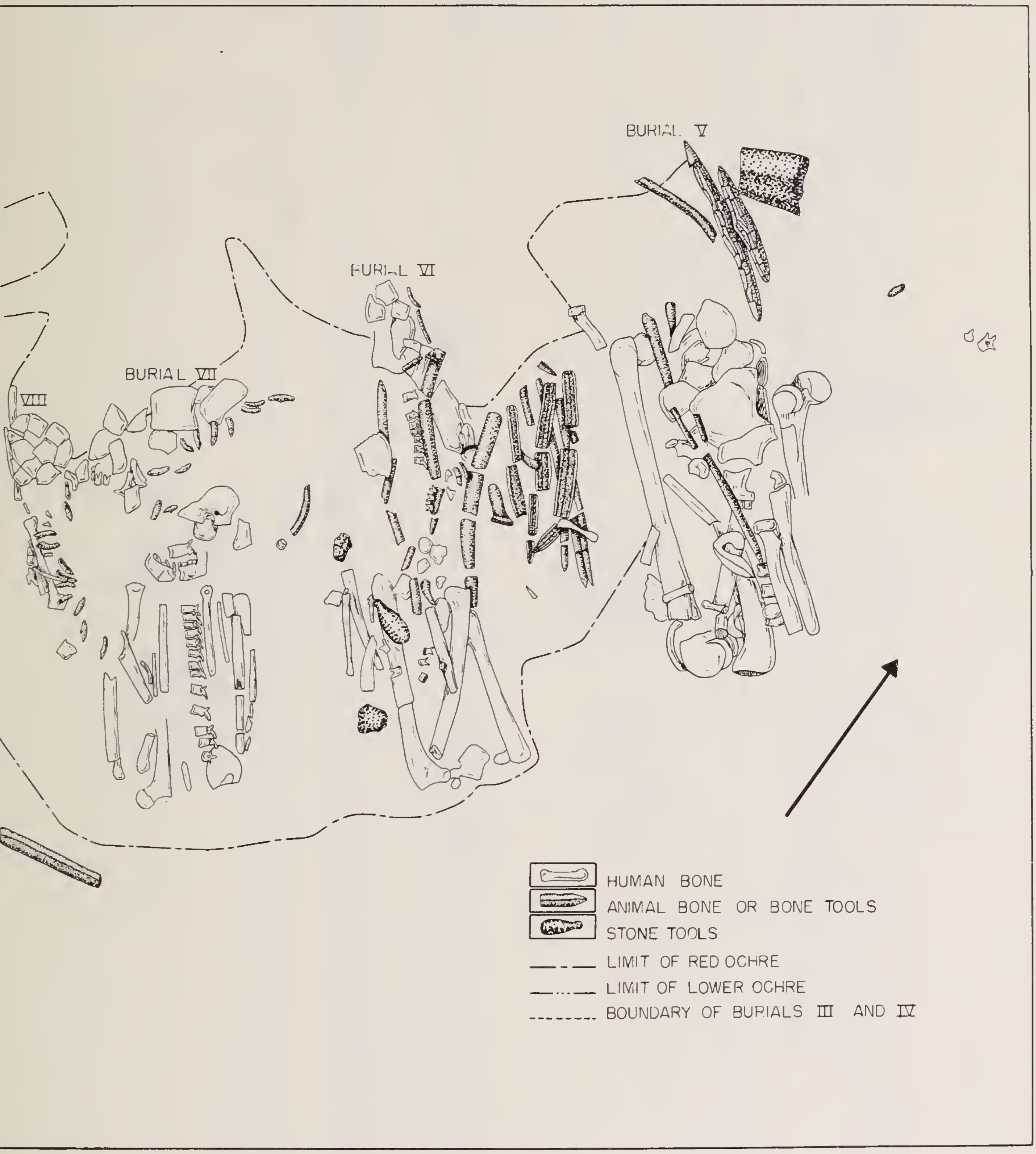


Fig. 21. Plan of Grave 5. Burials represented by III and IV are probably only a single burial.


BURIAL V
BURIAL VI
BURIAL VII
VIII
HUMAN BONE
ANIMAL BONE OR BONE TOOLS
STONE TOOLS
LIMIT OF RED OCHRE
LIMIT OF LOWER OCHRE
BOUNDARY OF BURIALS III AND IV

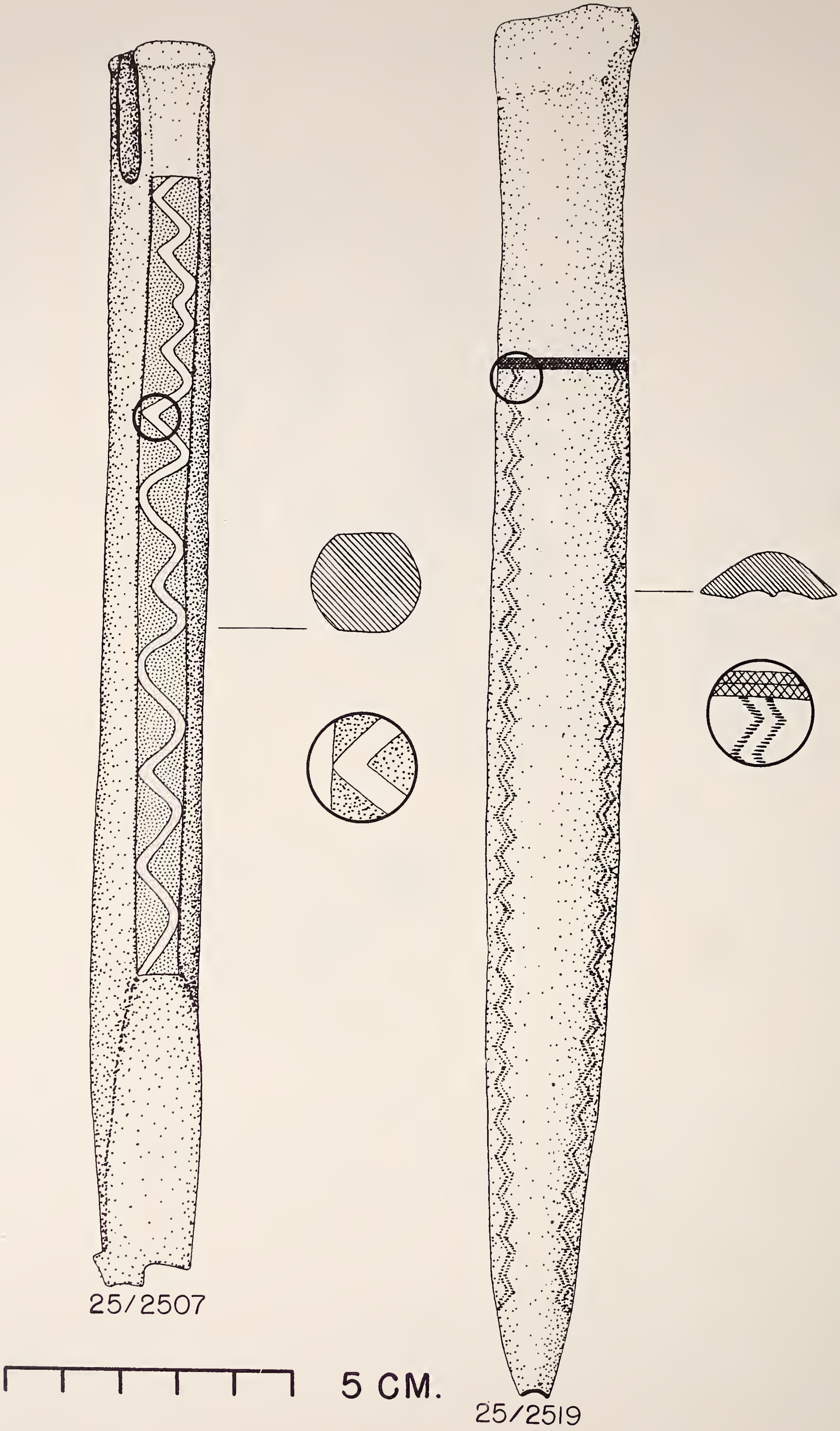


Fig. 22. Grave 5, left: foreshaft of swordfish sword outside grave limit and north of moose antler; right: one of daggers from group east of burials I and II.

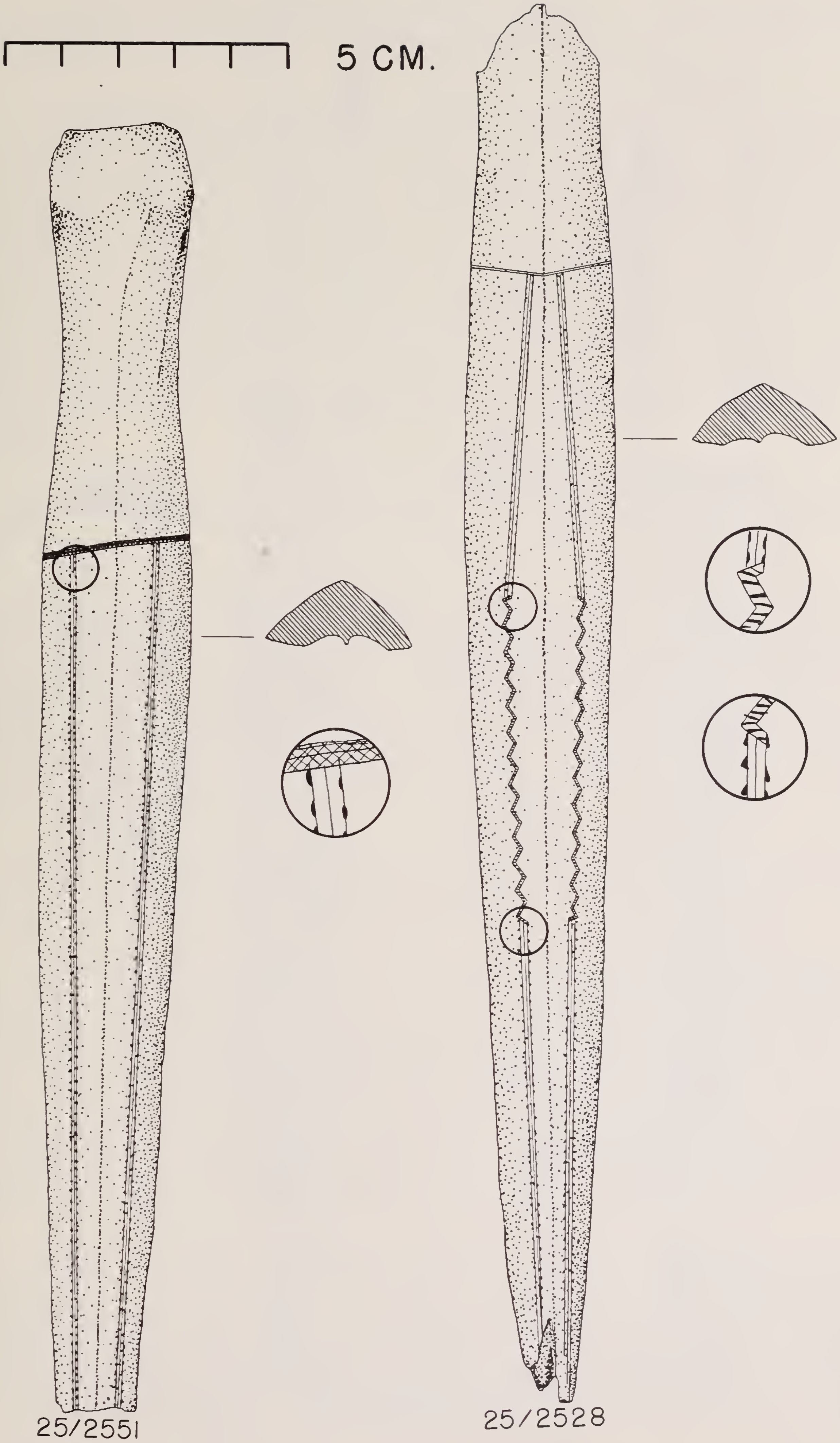


Fig. 23. Grave 5, bone daggers. 2528: Burials I-II; 2551: Burial V.

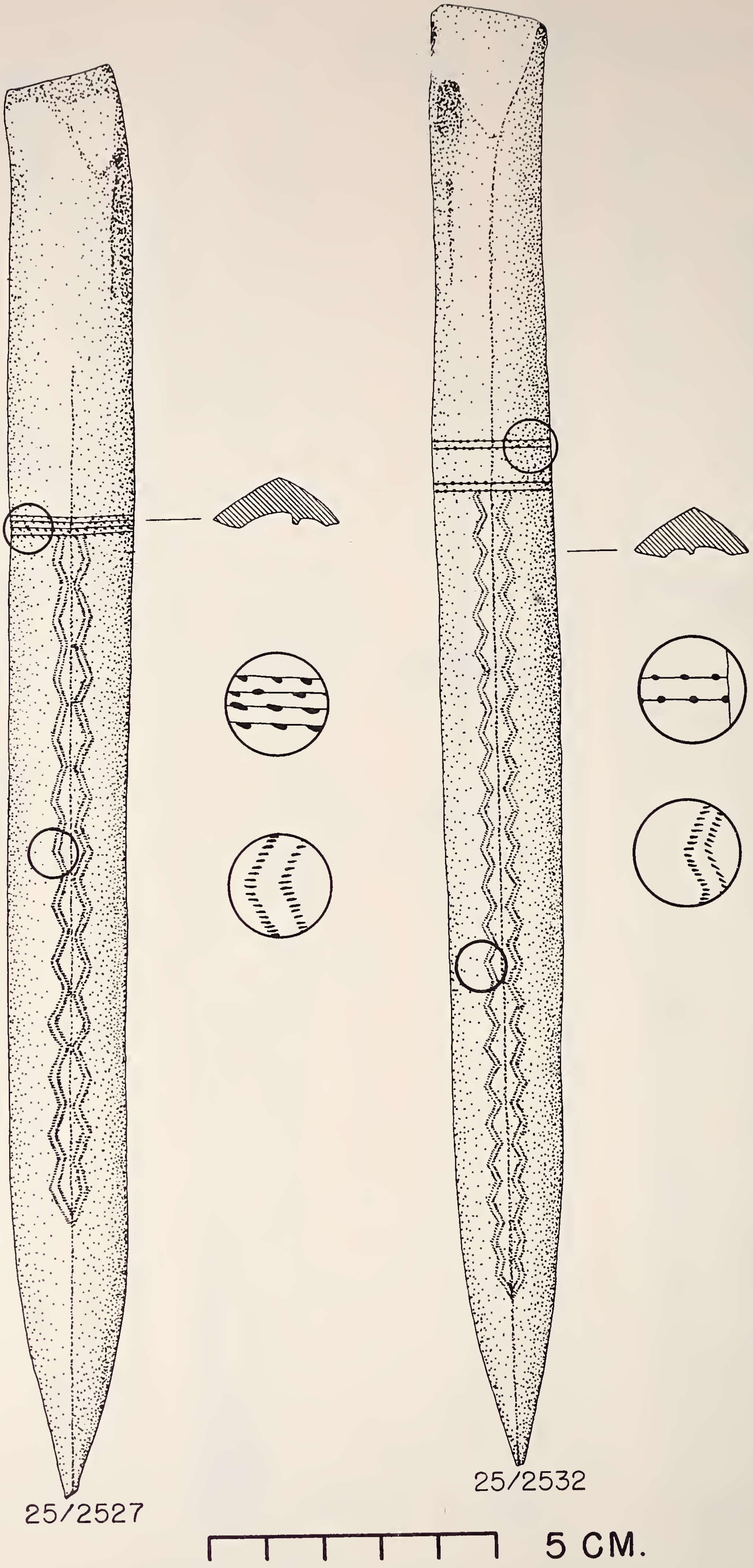


Fig. 24. Grave 5, bone daggers. Burials I-II.

of a "small young adult, probably female." Those who excavated Burial III made repeated allusions to a subadult with epiphyses not closed, as was the case with IV.

Fragments of human skull were found beneath the moose antler towards the center of the III-IV area. This led to a hypothesis that III had been removed in order to place I-II and the moose antler. The relation between this event and the placing of V-IX is not at all clear, but one interpretation is that V-VIII were in place before I-II and the antler were buried, and that the disturbance involved in that event allowed the skull fragments designated IX to slump from VII. The perforated canine teeth around Burial VII extend westward past Burial VIII, as if there had been a general movement of soil over the ledge below. In this motion the necklace or tooth ornaments could have been carried along.

Burial VIII could have been an infant bundle burial. It was accompanied by perforated canine teeth only and may have been closer to VII, or formed part of the burial.

Burial V was a young adult male. Rather than being covered by red ochre, it lay on red ochre. Oyster shells were plentiful on the east side of the skeleton and some covered some of the bones. Red ochre was in some of the oyster shells, but in general the shells and bone lay on ochre. Fish bones and scales were on the north and east of the burial in both shells and humus. Burned shells and ash on the west side of the burial, mixed with red ochre, covered part of the western half.

The bundle was oriented on a north-south axis with the skull at the north. The bones were in very bad condition and, as a result, few were recovered.

Burial gifts included two bone lances or pike heads, so badly shattered that they could not be restored. Near them was the ulna of a large bird, perhaps a swan, from which the distal end had been removed along with part of the proximal end. Beside the shattered lances was an unworked stone that is remarkable only because it fits a fragment of stone found in Section IB.1/5E, at least two meters away, and below a "rock floor" and above Grave 8! Other gifts include a large bone awl, in two pieces, the end of a bone lance or pike head, and the butt of a bone awl.

Burial VI was believed to be a bundle lying on a north-south axis. It proved to be the remains of two individuals, a newly-born infant (VI-A), and a child (VI-B). The burials had been made just above a ledge. Storm waves that intruded below the lower part of the grave in this area undercut Burial V, and probably drove enough water up the ledge to cause

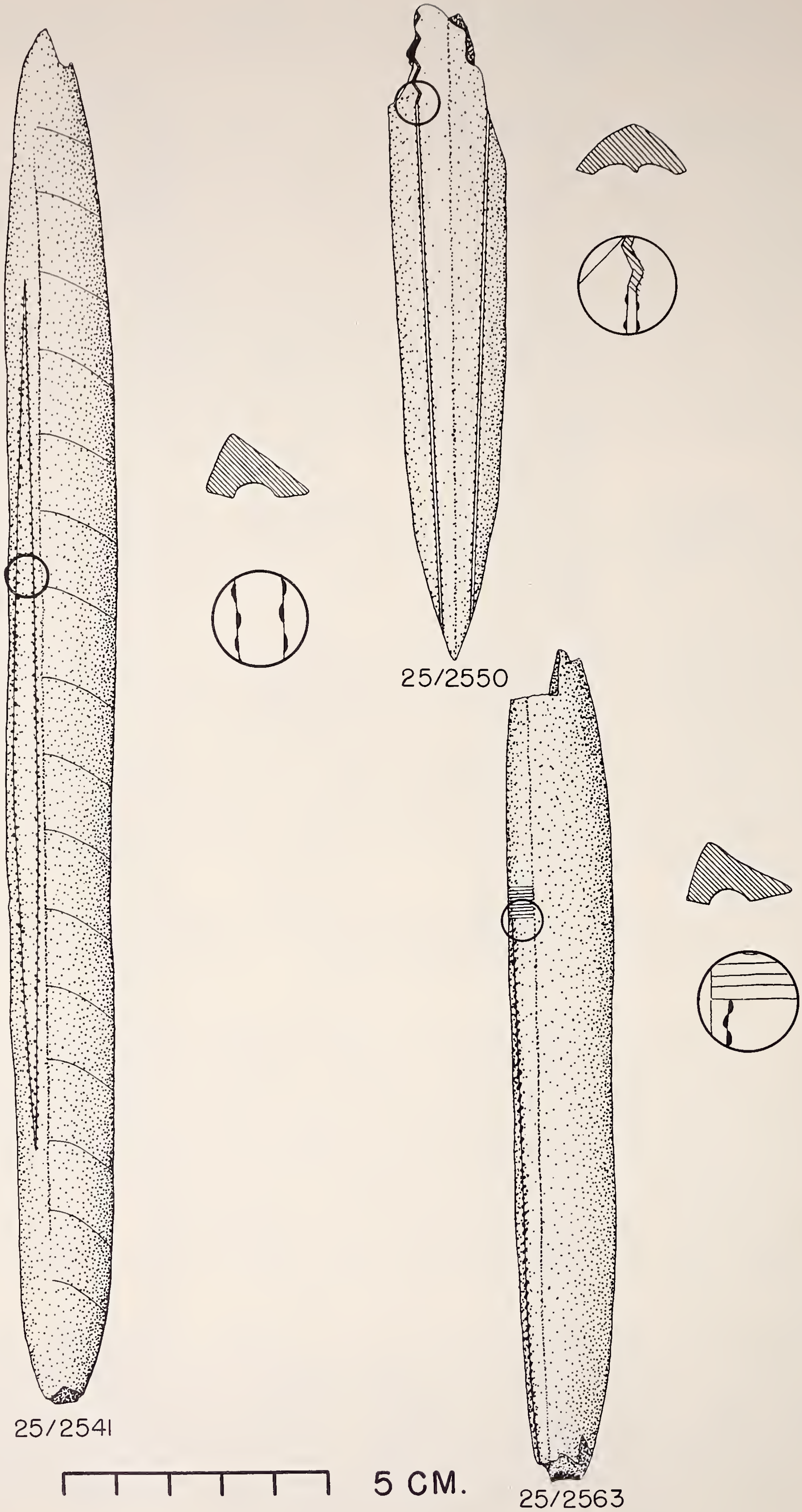


Fig. 25. Grave 5, bone daggers and bi-pointed objects. 2550: Burial V. 2541, 2563: Burial VI.

part of VI-B to slump eastward while the lower part moved south.

At the north end, on top of the burial were a number of human teeth, some unerupted. On top of the central part of the bundle was Skull A. Among a rotted bone mass extending north from Skull A were several vertebrae. Although the position of the infant could not be determined because of the condition of the bones, it could have been extended with head to the south.

Skull B had been placed on the ledge at the north end of the bundle, on its basion and facing south. It was crushed to the southwest with an orbit forced over a clavicle. Masses of fish scales were beneath the skeleton, quite evenly distributed. The long bones appear to have slumped to the south, with the bank. The bones of what could have been an articulated arm lay parallel to and on top of the leg bones; bones of the other arm lay below the femur on the east side of the bundle. Knee joints could be approximated; heads of femora approached remains of the pelvis. The vertebral column was pulled apart in the process of slumping.

Burial gifts include two lumps of iron pyrites, a plummet, a small bone point with two barbs, two incised bone daggers, and a lance or pike head. A pile of bone tools, just to the east of VI, included seven bone daggers (Fig. 25, right; Figs. 26, 27, 28), an antler socket for a beaver tooth, and a cut bone point. Three beaver incisors lay among the daggers; a human metacarpal lay across the tools.

Burial VII was that of a child, "probably male," with six-year molars erupted. Long bones and vertebrae were identified, but the torso had apparently sloughed off the ledge to the south. If the skull was crushed and slumped to the west, it could have contributed its missing parts to form the skull designated VIII. The bones were clearly assembled after the flesh had left them, but without benefit of a reliable handbook on osteology. The distal ends of the humeri were on either side of the jaw; the vertebrae were not in proper order; four or five dorsal vertebrae lay on their right sides with inferior surfaces towards the skull; a lumbar vertebra was found in the mandible; and some dorsal vertebrae were placed in the pelvis, which was not assembled correctly.

The chief burial gifts were perforated canine teeth that could have formed a necklace or been sewn to a garment.

The bone daggers found in Grave 5 were all made from the cannon bones of moose, split lengthwise, and then ground to a point. The outer surfaces were also ground and polished. Designs incised on these tools are not like anything that

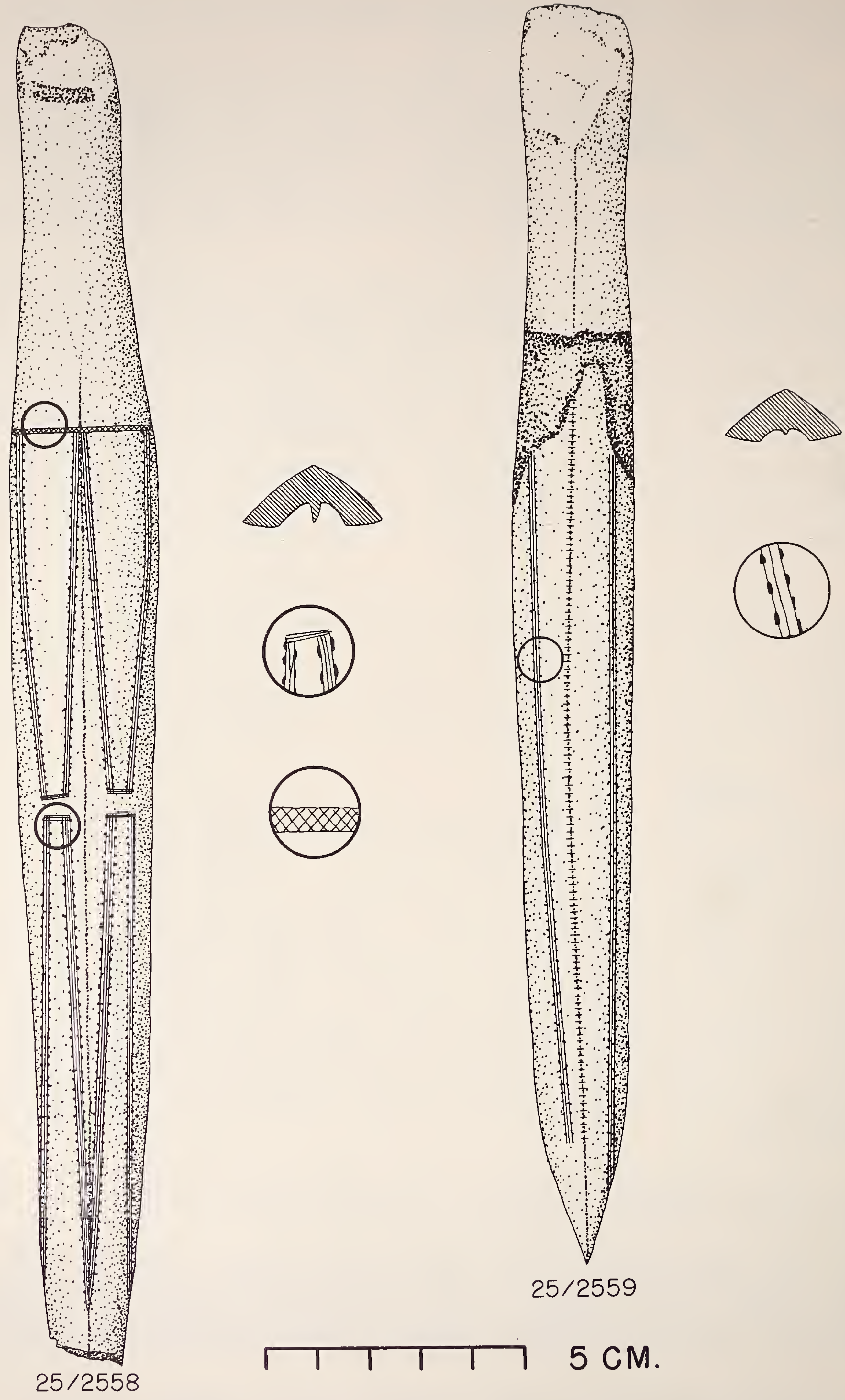


Fig. 26. Grave 5, bone daggers, Burial VI.

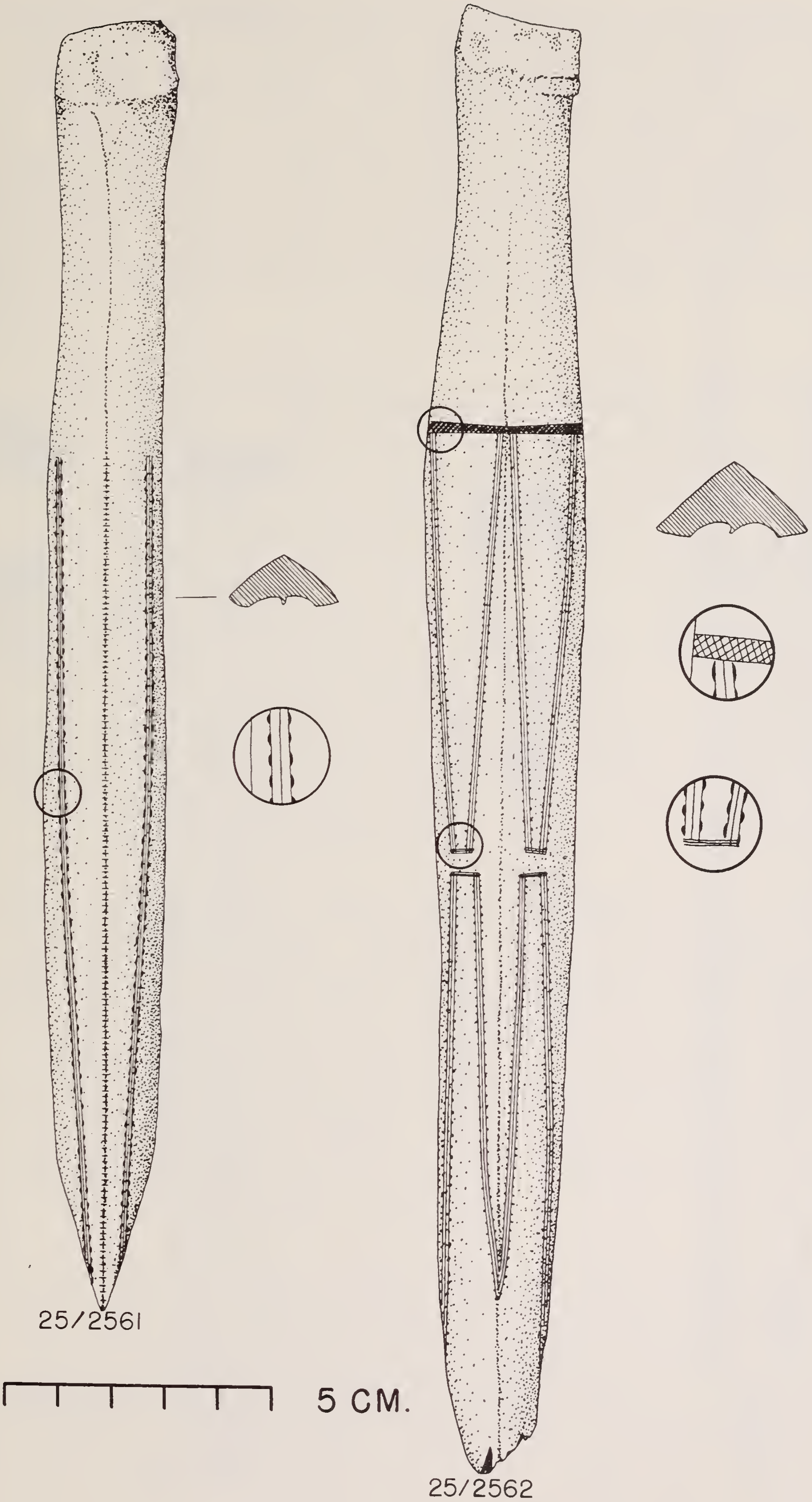


Fig. 27. Grave 5, bone daggers, Burial VI.

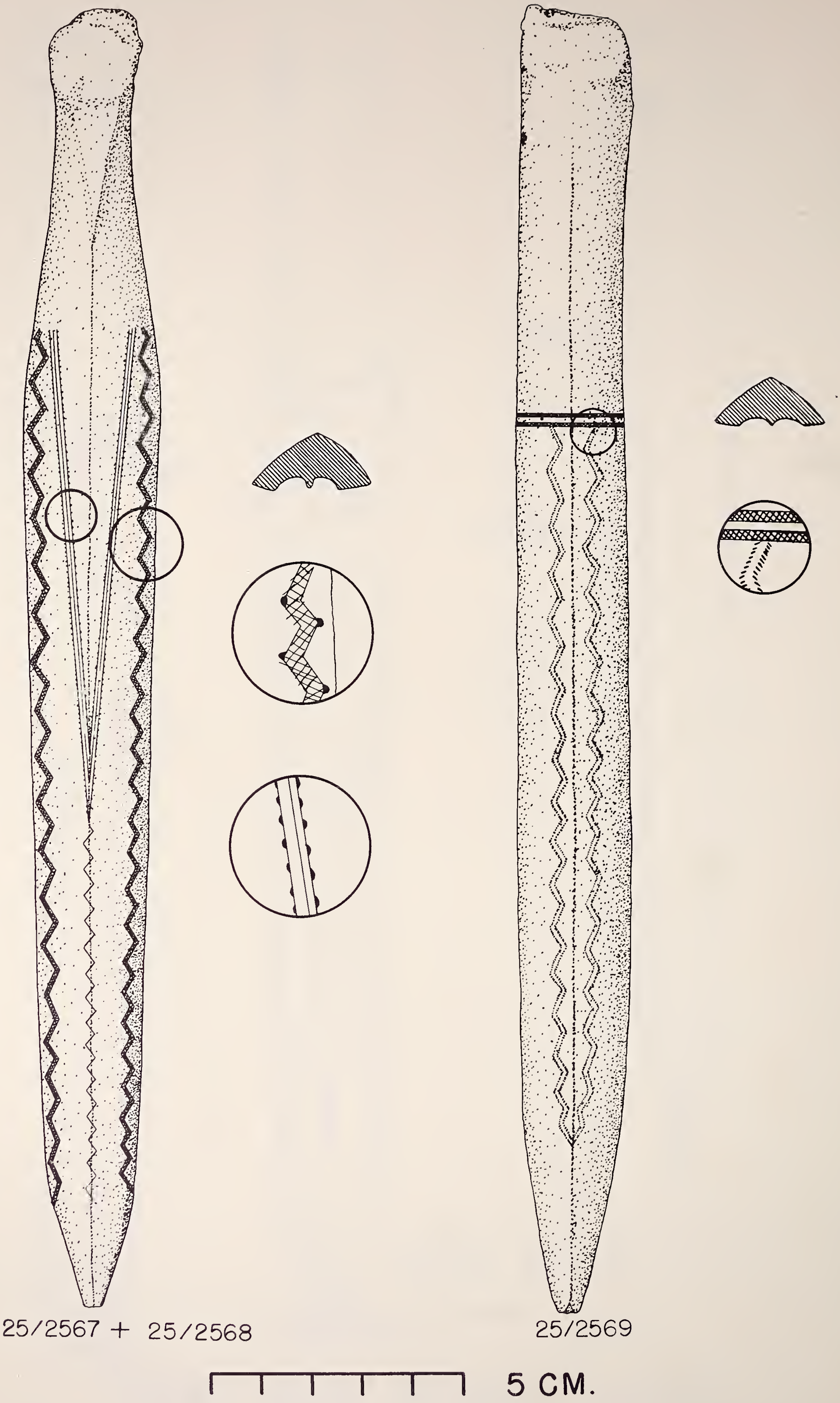


Fig. 28. Grave 5, bone daggers, Burial VI. Nos. 2567 and 2568 were identical and the only duplicates in any lot of bone tools.

has appeared in the literature. Some slate spears from Overlook Cemetery that were in the Parsons Collection in Kennebunk were similarly decorated, although the stone would not take such fine incisions. The Overlook Cemetery was near Warren, Maine, and was said to have been dug by Gerald Towle for Mr. Henry Parsons of Kennebunk and New York City during the summer of 1929. I have no data as to the whereabouts of this collection. It could be in the Brick Store Museum in Kennebunk. It was once offered to Colby College. This cemetery also yielded some hexagonal bayonets with incisions on the sides and with wedge-shaped tangs that had transverse scoring.

The only data regarding the stratigraphic position of Grave 5 are from the opposite end of the grave. At the east end, beyond Burial V, the shaft cut the Second Shell in Section IB/4E. The profile on the IA.3 line was not recorded, nor were the 2E, 3E profiles through the grave. The profile on the IB line shows a break in the "shell-flecked humus" that coincides with the limits of the shaft in IB/4E. At the west end, in Sections IB/2E and IA.3/2E, shells and humus from Grave 6 were thrown in two piles, humus on top of shells. The notes make it clear that the shells came very close to the edge of the pit of Grave 5, within fourteen centimeters of the western edge of the skull of Burial I. It seems clear that Burial 6 is later than Burial 5. Whether the unworked stone from the northeast side of Grave 5, Burial V, is of any significance is another matter, and hinges on whether it was broken from the piece found above Grave 8, long before it was emplaced on the edge of Grave 5. If nothing else, it serves as a measure of disturbance in the site.

Grave 9 (Fig. 29). The first evidence of this grave was in the western half of Section IA.3/2E where the First Shell layer was very deep. When this layer was removed, the eastern part of the grave was discovered below them. The pit of Grave 9 must also be older than Grave 6, for the outline of the pile of shells from Grave 6 is less than twenty centimeters east of the limit of red ochre in Grave 9. After the area of the grave had been cleared it was found to contain three bundles, all oriented on a north-south axis, and with the skull at the north end. It was later determined that Burial III was accompanied by a child (Burial IV), and an infant (Burial V).

The grave shaft was clearly recognized along the central part of the northern edge, but was not recognized elsewhere. This could be because the grave was dug and filled with a scooping or sweeping motion. A boundary line across Section IA.3/1E marked the edge of the Thick Shell to the west, and the Second Shell above Grave 9, and continues a line across Section IB/1E where a parallel course

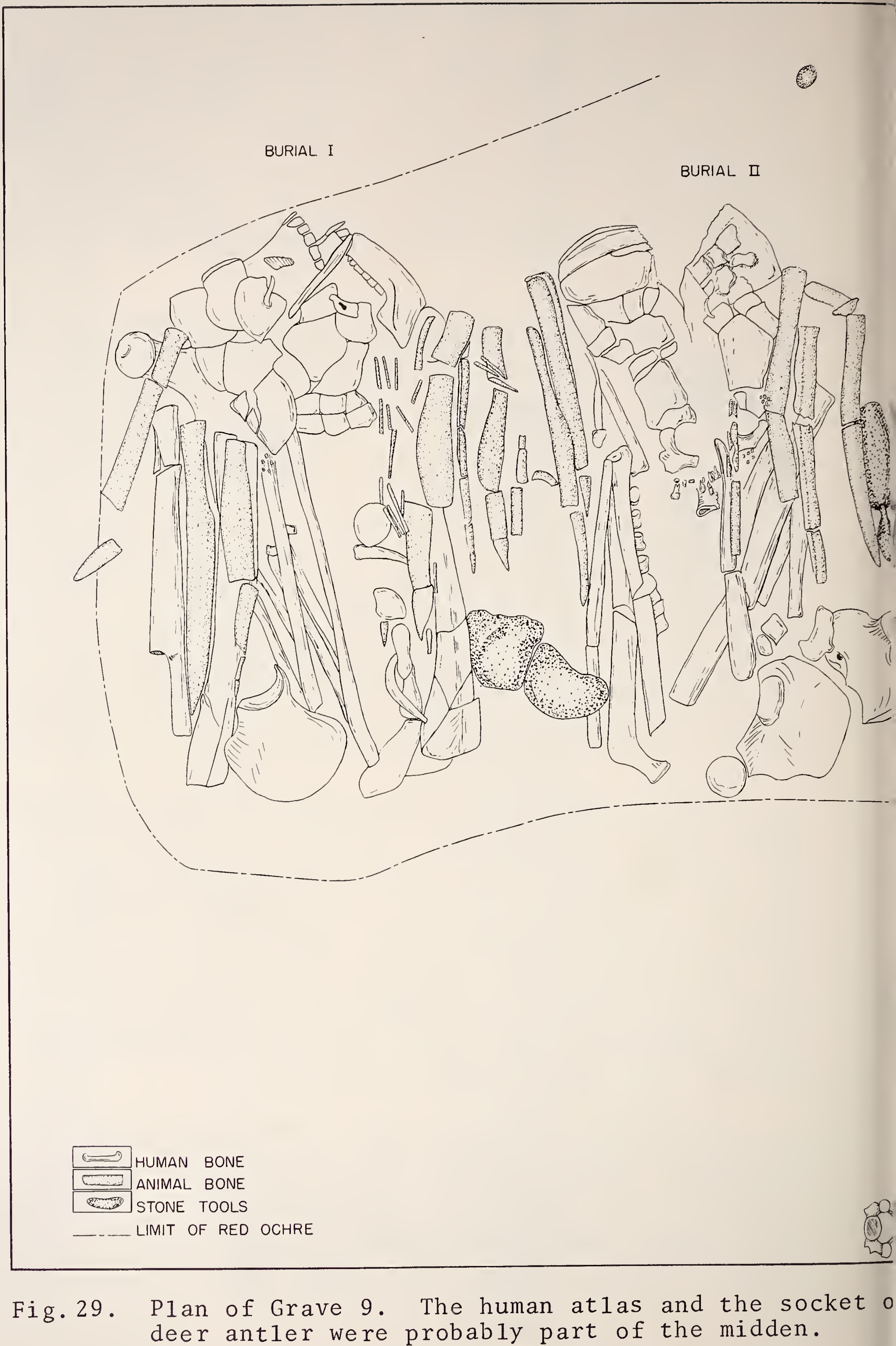
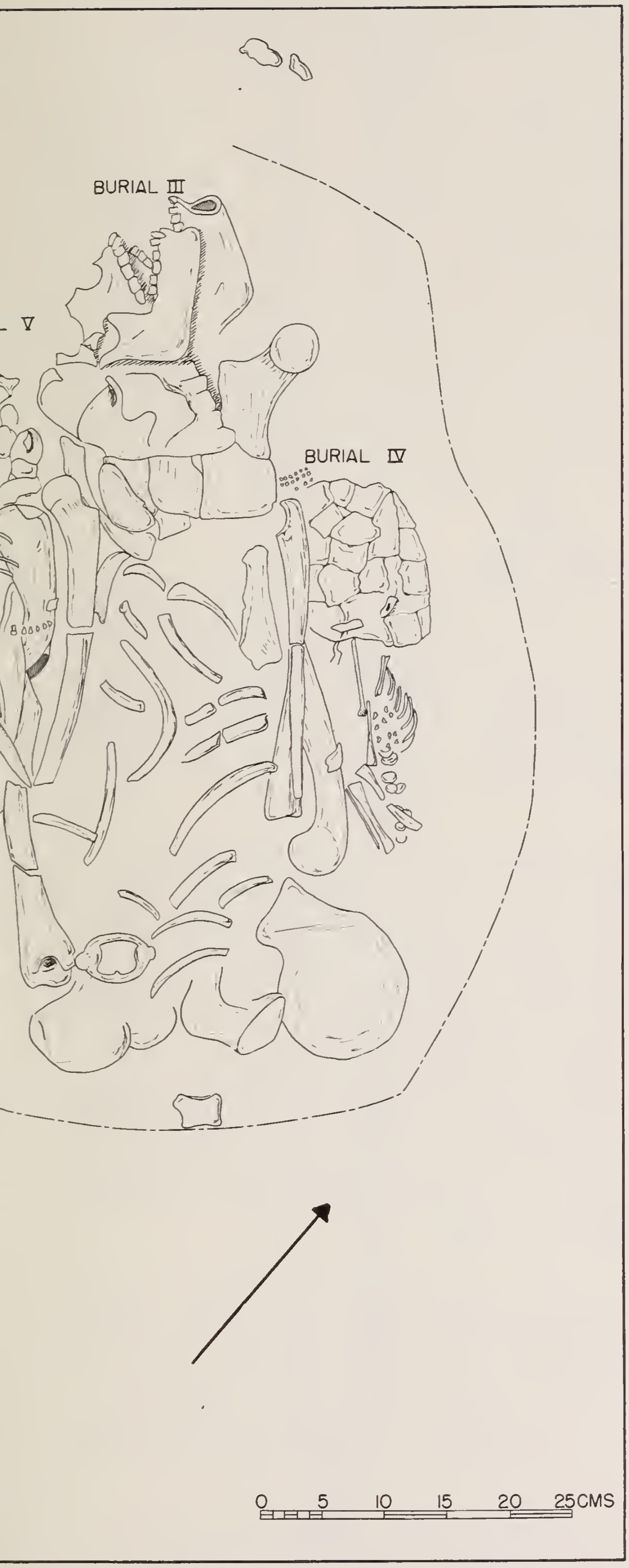


Fig. 29. Plan of Grave 9. The human atlas and the socket o deer antler were probably part of the midden.


BURIAL III
L V
BURIAL IV
0 5 10 15 20 25CMS

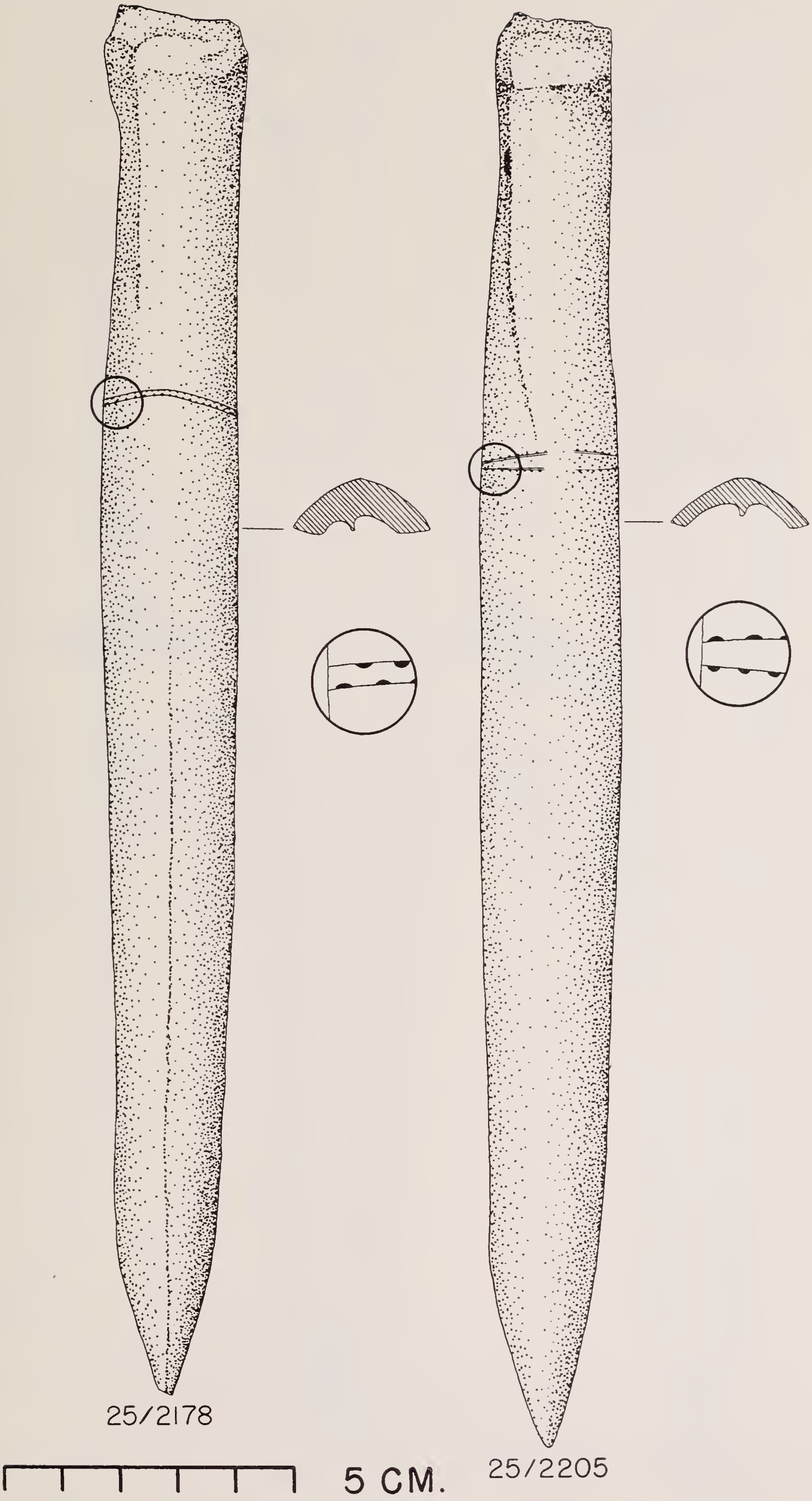
separated First Shell above Grave 10 from Second Shell to the west. This line cuts across Grave 10 on a diagonal from the shoulders to the chin, and demonstrates clearly that it was made after Grave 10 was in place. There are many burned areas in the Thick Shell to the west of Grave 9, and it is clear that they had never been disturbed. In contrast was the Second Shell in the eastern part of Section 1A.3/1E where the proportion of shell increased continually as depth in this grave fill increased. This fill was apparently scooped down across Grave 10, and may account for the lack of shells in sections to the north of Grave 10. To the south, it was possible to see in the layering of the shells along the 1E line the way in which the backdirt had been piled up before the grave was filled from the north and south. As the fill of shell was in direct contact with the burials, it made them more difficult to clean and made the ochre appear thinner and paler than that in Grave 5 which was spread on humus-rich soil.

Burial I was that of a sub-adult male, with third molars incompletely erupted. It had clearly been buried after the flesh had left the bones for the tibiae were opposed. Epiphyses of the long bones were not completely closed. Burial gifts included seven bone daggers (Fig. 22,left; Figs. 23 and 24, center and right), as well as four double-pointed awls, some needles, and worked beaver incisors. Two pieces of iron pyrites lay between Burials I and II.

Burial II represented the remains of an adolescent. This skeleton also had been placed in the grave after the flesh had left the bones. None of the epiphyses had closed and, as a result, articular surfaces and shafts of long bones were separated in many cases. Burial gifts included an incised flute made of the wing bone of a large bird (Fig. 32, left), five bone daggers and fragments (Fig. 31, left; Fig. 32 right; and Fig. 33), several beaver incisors, a socket for such a tool made from the proximal end of a shed deer antler, a plummet, and a very thin adz-like implement. A second, larger socket, lay outside the limits of the red ochre to the south of Burial II. A human atlas lay beyond that but on the same approximate level.

Burial III was that of a young adult male. The bones had obviously been assembled after the flesh had left them as they were not in normal articular relationship: the ribs were placed helter-skelter between the long bones, and the vertebral column was incorrectly assembled since the atlas lay among pelvic bones. Burial III was accompanied by two infants or children.

Burial IV represents the remains of a young child or infant, flexed, and lying on its right side. The skull was in such bad condition that its position could not be



ig. 30. Grave 9, bone daggers. 2178: Burial I; 2205: Burial III.

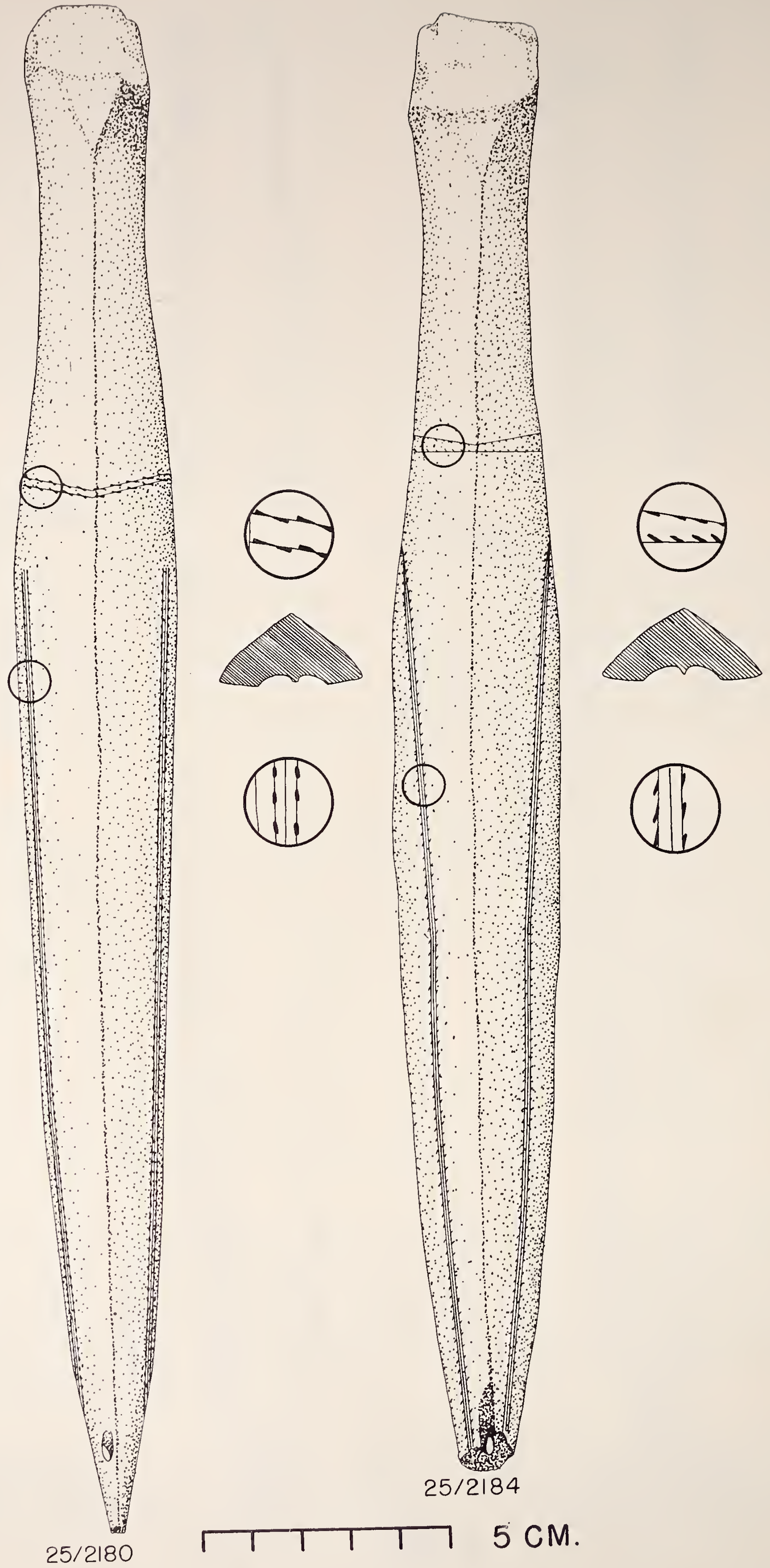


Fig. 31. Grave 9, bone daggers, Burial I.

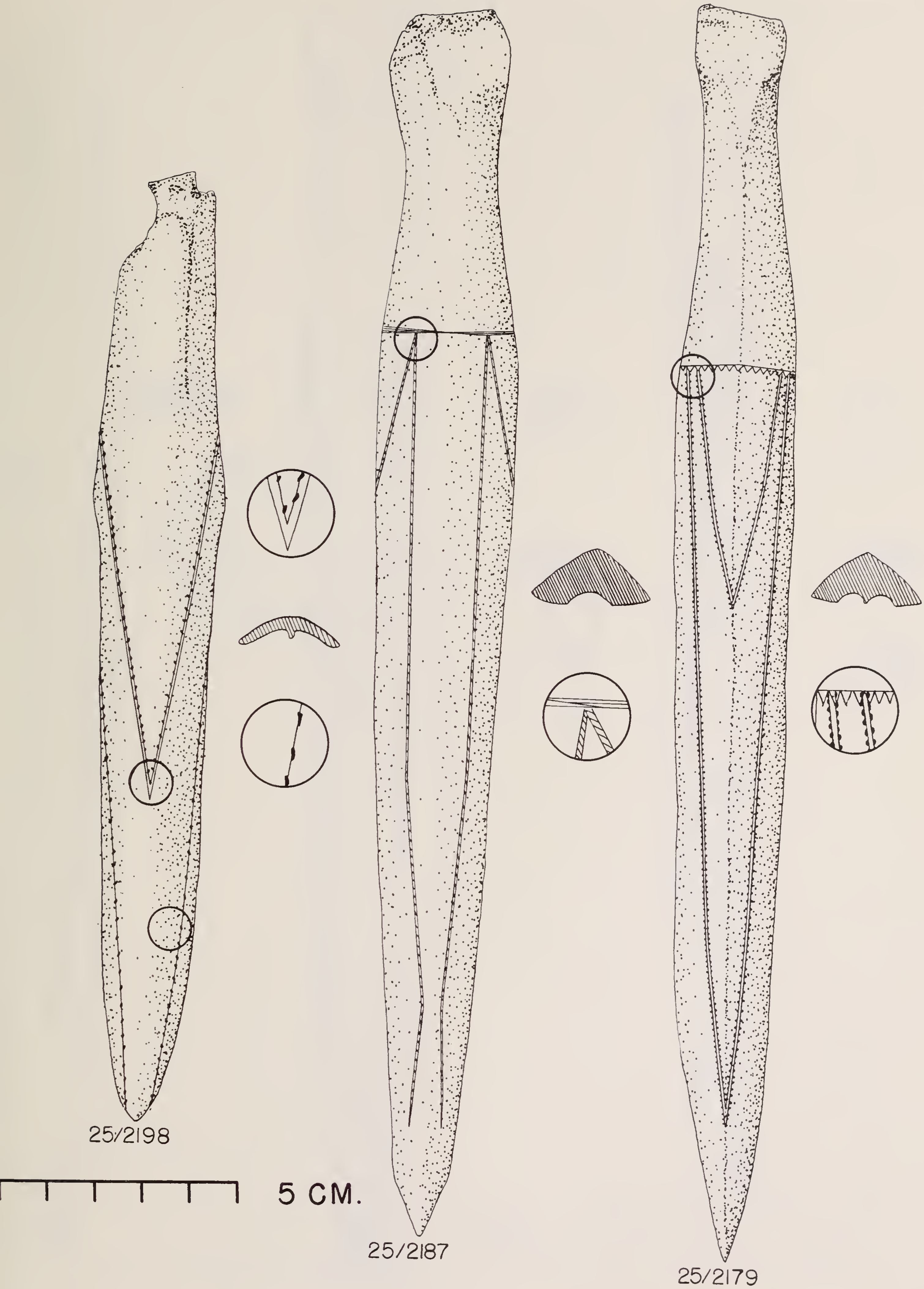


Fig. 32. Grave 9, bone daggers. 2198: Burial II; 2187, 2179: Burial I.

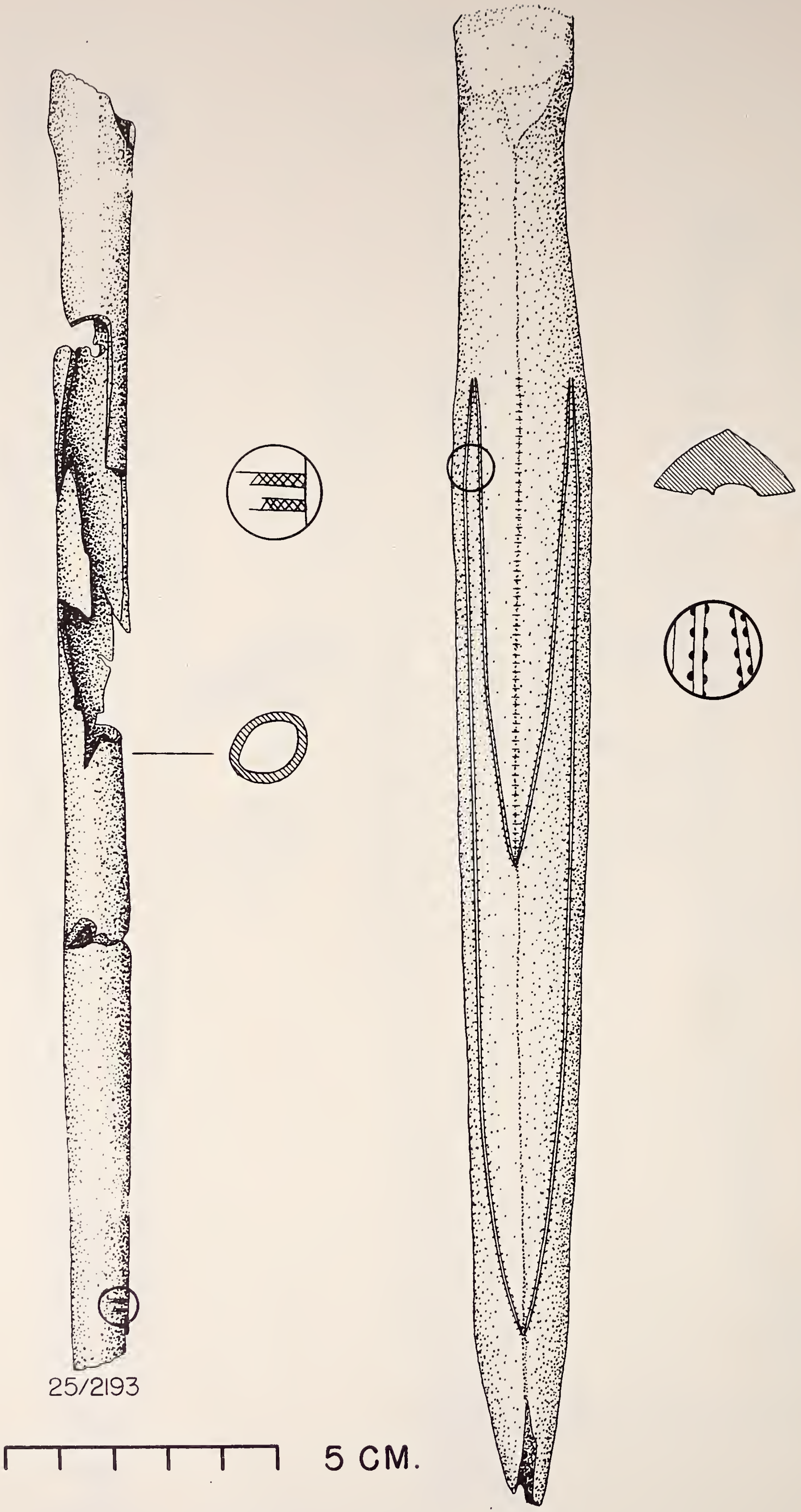


Fig. 33. Grave 9, left: incised flute or whistle made from wing bone of large bird; right: bone dagger; both with Burial II.

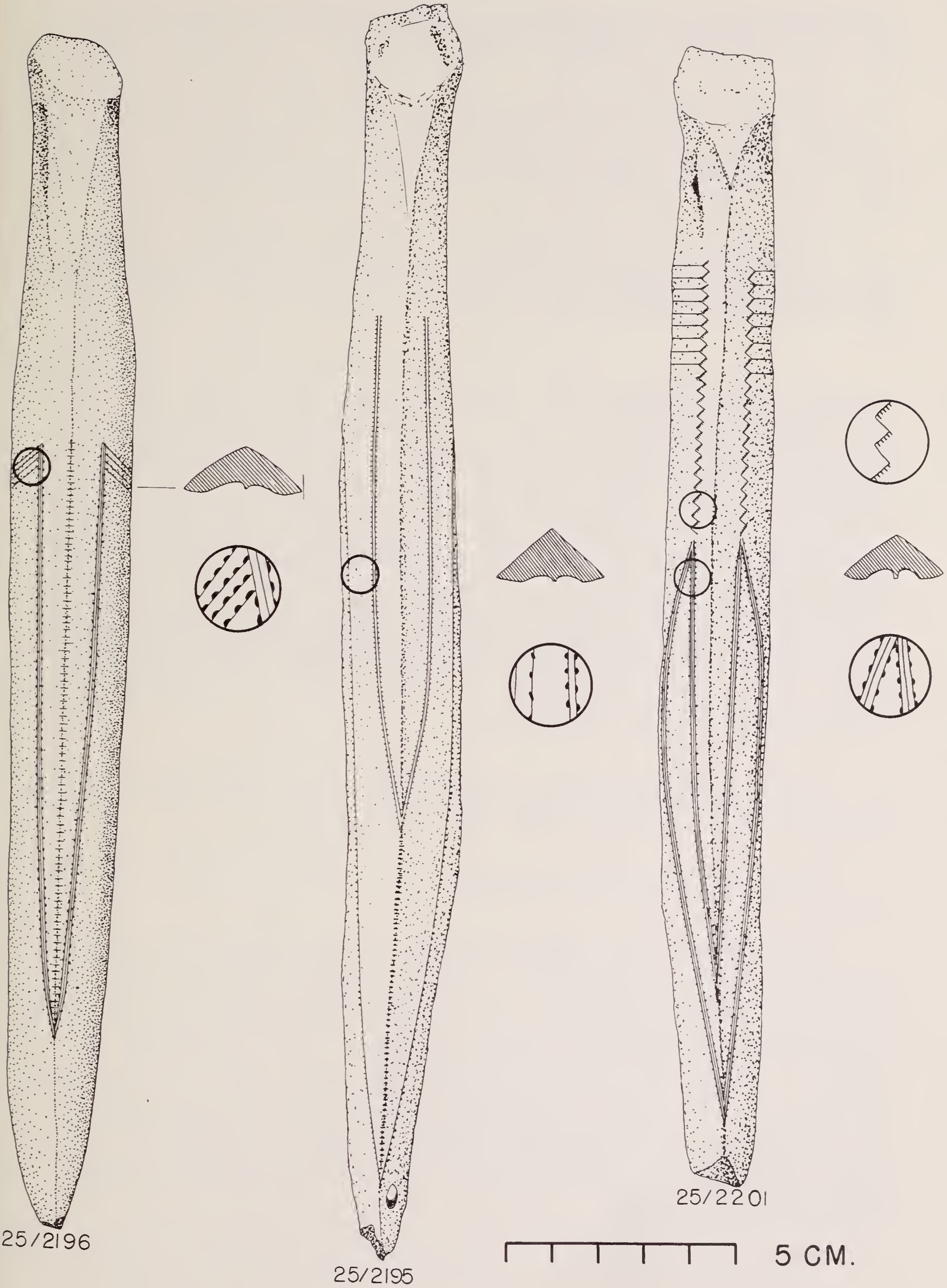


Fig. 34. Grave 9, bone daggers, Burial III.

established with assurance, although the position of the mastoid processes suggests that it was on its right side. Vertebrae were represented by the centers of ossification.

Burial V was a newborn, also extended. The bones were so badly rotted that it is impossible to say more. The only burial gift was one bone dagger (Fig. 31, right) that lay over the probable position of the ribs of Burial V. A deer astragalus lay just within the ochre, south of the bundle.

Fish remains, including bones and scales,were common below the grave which had been dug down to black humus pebbles resting on till. More ochre was found with Burials I and II than with III, IV, and V.

The antiquity of these burials is not easily established. Only the human bones would give a proper date, and they were all treated with preservative or discarded as useless. Graves 6 and 9 appear to be younger than Graves 5 and 10. All are younger than the layers in which they were found, and most seem to have been dug through the local equivalent of Second Shell. The radiocarbon sample SI-1551 was selected from scrap bone and shell taken from the Second Shell in which Grave 5 was placed. This area had been dug over and mixed in aboriginal time and there is little wonder at the range of dates represented by the samples 1551A1, A2, and A3, 1551B, and 1551C. Perhaps 1551A3, 2660±85 B.P. most closely approximates the age of the last opening of Grave 5 (Table 1). Then Grave 6 must be younger. Grave 9 may be younger than Grave 5 because the bone daggers from Grave 9 were not eroded as deeply as some in Grave 5.

Grave 2 approximates the age of Grave 5 on the basis of the occurrence of swordfish sword foreshafts of like pattern, accompanied by single-barbed male harpoons.

There is no clue as to the ages of other graves in the stratigraphy or in the artifacts.

Two caches were found just below the plow line in undisturbed shell and humus. One contained parts of two connoidal-based pottery vessels of the general style Point Peninsula Dentate Rocker. The other contained large felsite spearpoints of general "corner removed" form, probably preforms, totaling thirty-five whole specimens and twelve fragments. It was clear that both deposits had been just below the sole of the plow. One other cache was an arrow-maker's kit containing side-notched points. These all appear to be later than the burials, as the tops of the graves were not found as close to the surface as the layer in which these deposits were found.

That the occupation of the site was dicontinuous is clear from the lack of double-corded pottery of the Vinette I type, although excellent samples came from Ellsworth Falls. Nor do we find potsherds comparable to those at the Richards Site among the refuse. The absence of burials of classic "Red Paint" character may be explained by the rising sea level that undoubtedly washed away the earliest parts of the site, leaving only the midden rich in fish remains found in the lowest levels near the beach.

The collection made on the beach by Mr. Mitchell includes a fragment of a bannerstone of bi-pennate form. This was broken along the length of the drilled hole for the shaft, and carried "tally marks" along the outside edge of the concave end. It is not unlike one from Grave 57 at Emerson's Cemetery.

The cultural connections of such a mixed site go far and wide. The temporal relations are now becoming clear thanks to the work of others at directly datable sites. It is evident that the cultural affiliations of the inhabitants of the lowest levels who used slate points can be traced northeastward and westward, not only within Maine and New Brunswick but also into the Great Lakes district (Byers, 1962). The possibly intermediate levels, represented by the burials, and the later occupations show relationships to the cultures inhabiting the northern hardwoods zone from the Great Lakes basin to Newfoundland rather than to Archaic cultures of New York and the Ohio Valley.

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